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AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

January
1939
25c

Foreign 35c

Published in Hollywood by
American Society of
Cinematographers

Uniform Interiors
with Meters
DAN CLARK

Progress in 1938
STULL

Coordinating Make-Up
GAUDIO

Sherlock Wins
Contest

Frosty Filming
SPRUNGMAN

Ruttenberg Wins
Camera Honors
BLAISDELL

Rising Still from 8mm.
TEOREY

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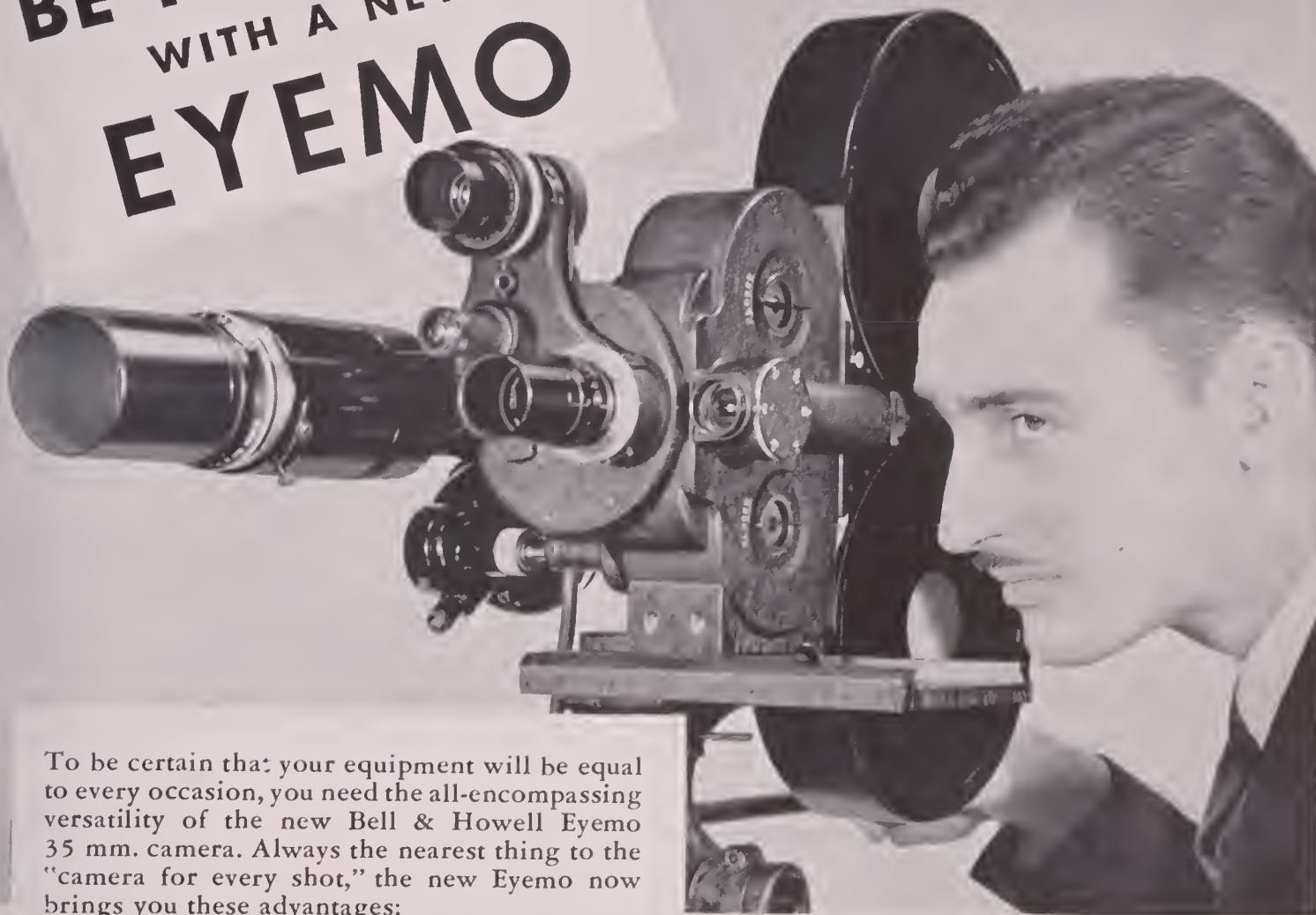
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The Front Cover

FACING the camera here are Bette Davis and Geraldine Fitzgerald in Warner Brothers' "Dark Victory," in which, with Miss Davis, George Brent shares the lead. It is a tense moment in the story. Plainly it is felt by the onlookers. Ernest Haller, A.S.C., squats by the camera, with Director Edmund Goulding in dark jacket, Producer David Lewis next to Goulding, and George Brent in slouch hat. Schuyler Crail exposed the still.

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DURING recent years an increasing number of progressive cinematographers have found the photoelectric exposure meter an invaluable aid in the making of exterior scenes. While there are some who still prefer to ignore the use of such devices, those who have properly employed meters have proved that they relieve the photographer of much of the burden of routine mechanical problems, giving him more time to express his artistic individuality, and assuring greater photographic uniformity in his scenes.

In theory, if meters are so helpful for exterior scenes, they should be even more useful for making interiors, for in lighting a set on the stage there is a much greater amount of routine detail to be attended to before individual artistic balancing of the lighting can be done.

In practice, however, there have been obstacles to following such a course, and very few cinematographers other than those working with Technicolor and using its special photometers have made use of meters on interior scenes.

Perhaps the chief objection to using meters for interiors has been the fact that in most scenes made under artificial light the mechanical question of exposure is secondary to the artistic question of lighting balance.

Overall Average

Meters, used in the conventional way—for reading *reflected* light—give an overall average reading in terms of exposure, and fail to give any indication as to the specific value of “key” light, or of balancing.

Therefore even the cinematographers who enthusiastically used meters outdoors pronounced them of very little, if any, use on the stage.

Some time ago, I formed the opinion that in a case like this, where theory and practice appear to differ, if the theory is sound there is likely to be something wrong with the practice.

This opinion was confirmed from observation of the way the Technicolor crews used meters successfully for interiors. As is well known, they use their meters not to measure *reflected* light, but to measure *incident* light, which is the important factor.

Therefore I experimented with several different types of meters during the course of several pictures, finally choosing the new General Electric meter as the most suitable.

With this choice made, I experimented further, using the meter for direct readings of the key light from the position of the subject. In this, I ignored the exposure calculator, and made daily checks between the meter readings expressed in foot-candles, and the printer light at which the scene printed.

I soon found that using a meter this way I could control my key light with sufficient accuracy to be able to predict quite closely what light a given scene would print on. Finally on my last

picture, “Five of a Kind,” I used the meter religiously, with the result that the exposures were so consistent that the entire picture printed on only two printer lights.

Program of Experiments

When that production was completed I began a program of careful experiments to test the accuracy of the system and to devise means of checking the meters to assure their continued accuracy.

The first testing set-up consisted of an optical bench on which I could test the meter at a predetermined distance from a standard photoflood lamp. This showed I was on the right track, but also revealed two weaknesses in the testing method.

First, the optical bench was far too bulky to be carried around. Secondly, the photoflood globes have a short life, and as they are burned they blacken and their illuminating power falls off sharply.

Therefore a much more practical testing device has been devised. It is housed in a small case, and consists of a long-lived 6-volt automobile headlight globe powered by flashlight batteries. The light of this globe is directed through a ground glass diffusing screen to an aperture which fits the end of the

meter to be tested.

The current to the globe is controlled by a rheostat and indicated by a voltmeter. The characteristics of the globe are such that with a given voltage its light output is constant.

The method of testing is simply to apply the meter to the testing aperture, which excludes all external light. If, with the testing light off, the meter's needle indicates zero, and then, with the light on and adjusted to a predetermined voltage, the meter gives a predetermined indication, the meter is accurate.

Throughout these tests, the General Electric meter proved itself the most consistent available, and the most nearly free from individual day-to-day fluctuations. It has therefore become our standard.

Correct Characteristics

For our use the meter is fitted with a small metal aperture plate which is placed directly over the cell and inside the hood. This plate reduces the cell area exposed to give us just the correct angular and directional characteristics.

With these details attended to I essayed a series of practical tests to give final proof of the system's accuracy. The meter was intrusted to a camera-

SECURING UNIFORM RESULTS WITH METERS ON INTERIORS

By DANIEL B. CLARK, A.S.C.

*Supervisor of Photography,
Twentieth Century-Fox Studio*

man who had not previously used the system. He was sent to a set one morning to make a series of tests—long shots, medium shots and close-ups. He was told, "Keep the meter reading on your keylight at such a point, and your scenes should print on light 12." When the rushes came through, every "take" had printed on the specified light.

The next day he returned to the same set and repeated the same tests. Again the scenes all printed on light 12.

The third day the same man was sent to a different set, with different people, to repeat the tests under entirely different conditions. As I recall it, the first tests were made on a light colored set, the second on a dark one. Again all takes printed on the desired printer light.

The fourth day, the cinematographer was sent to make some night exteriors with lights. Again the tests printed as desired.

For day exteriors, the problem became more complicated. As is well known, most studio cameramen prefer to keep their lenses at the widest aperture possible on such scenes, to avoid excessive contrast. In consequence, most day exteriors print too close to the top of the scale for best print quality.

Printing Consistently

The logical course in this case seemed to be to use the meter for reflection readings, since average overall exposure was the main problem. Experiments showed us that it would be possible to use the meter's guidance to bring the exposure to a point where such scenes would print in a more satisfactory range.

Using a film speed setting of 32 instead of 24 for Eastman Super-X film, cutting the camera shutter to 90 degrees, and thereafter following the meter's guidance as to diaphragm settings, we found that we could, without increasing contrast, bring our exposures to a point where the scenes printed consistently on light 14, which is much more satisfactory.

With the results of these tests, the studio executives felt justified in adding meters to our regular camera equipment. Every director of photography in the Twentieth Century-Fox Studio has available a General Electric meter, tested regularly and kept in condition by the studio.

I believe this is the first time a major studio has purchased light meters for its cinematographers, and Twentieth Century-Fox executives are to be congratulated for taking such a progressive step.

In practice, here is the way we use our meters. In the first place, we begin with an advantage in that the studio's laboratory works to a strict time-and-temperature system in developing negative, thus assuring that if exposure is consistent negative values and printing times will be equally consistent.

Most scenes are printed for face values, which in turn depend on the key light.

Measure Key Light

Since all meters are tested for accuracy and uniformity, we know from our experiments that if the key light is held to a given level and, of course, the lighting balance is correct, the scene will have to print on a given printing light. Mike Leshing and his laboratory staff have found that with their methods the ideal results are had with a negative that prints in the middle of the scale.

So on the set we simply measure the key light to see that it gives us the meter reading we know means a negative which will print correctly. In time we may possibly calibrate our meters to read directly in terms of printer lights, rather than in foot-candles or terms of exposure.

The meter reading is taken from the plane in which the principal actor's face will be, with the meter pointed directly at the source of the key light.

From this point on, the director of photography lights his set in the usual manner. He has established his key light at the ideal intensity. Balancing the rest of the lighting and placing the modeling lighting is strictly his own affair. He can and should do this in his own way—with the individual technique which is his trade mark.

If he wants to use the meter to check up on any other phase of the lighting—as, for instance, to measure shadow illumination—well and good; he may save some time and trouble by doing so. But the main purpose of the meter is to keep key light—upon which he balances all the rest of his lighting set-up—constant, unaffected by any variations including his own visual fatigue.

Full Originality

Using the meters in this manner does not take any of a cinematographer's artistic or technical originality away from him. If it did, I would be the first to object, for this originality is a cameraman's proudest professional possession—the thing which differentiates him from his fellows, and which makes him of value to his studio.

What the meter actually does is simply relieve the cinematographer of troublesome, detail routine, allowing him to give more thought to the really creative aspects of his work.

Coupled with this, the meter effects a real saving of time in lighting a

Dr. Ernst Schwarz, president of Agfa Ansco Corporation, announces a Christmas bonus affecting 2600 employees of the company and approximating \$125,000 in amount. All who have been in the service of the company since last July 1 are eligible to participate. The payments were made around December 15 and ranged from one-half week unto a half month, depending on length of service.

scene. Several of the Twentieth Century-Fox cameramen who have used the meters this way have found their work sped up by some two or three scenes a day, with no sacrifice of artistic quality and a definite increase in photographic consistency.

With the recent introduction of Eastman's Plus-X negative, the use of these meters has again proved its value. With this accurate guide to key light intensity none of the meter users had any misgivings about changing to the faster film.

Knowing the correct key light value for the older stock and the increase in speed of the faster stock all that is necessary is to drop the standard key light value use with Super-X to one suitable for use with a film of twice the speed.

This method of using meters is invaluable in instances where for any reason a cameraman must leave a production to be finished by another man. The problem of matching one man's work to another's is simplified by meter readings which automatically enable him to match his key light to that used by his predecessor.

Skeptic Converted

Another instance where the meters were of great value came recently when a cinematographer (one who had opposed meters) finished a Technicolor production and was immediately assigned to a monochrome film. He reluctantly accepted the suggestion that he start off his black-and-white shooting using a meter.

The first day's work found him greatly worried, for after many weeks of the high-intensity lighting necessary for color he felt he was underlighting when he followed the meter's guidance. The next day the rushes were perfect, printing uniformly on the correct printer light, and he became a convert to using meters.

While we believe that the system of using and coordinating meters as we do at the Twentieth Century-Fox Studio is a genuine forward step, no attempt is made or will be made to force their use by cameramen not convinced of their worth.

However, the record being made by those of the men who use the meters is daily becoming more convincing. It is not too much to predict that when all of our camera staff use and have become accustomed to the meters the whole studio's output, with the inevitable exception of special light effects, can be printed on a single light.

At any rate, we can expect greater consistency in the studio's cinematography during the next year, and, since the cameramen are relieved of one piece of troublesome routine and have more opportunity to concentrate on the artistic side of their work, a finer grade of cinematography than this group has turned out before.

CINETECHNICAL progress during the past year has been eminently satisfactory. While the most sensational developments have of course been the tremendous strides made in film-speeds, a great number of less spectacular but important advances have been recorded in virtually every other phase of both standard and substandard film technique.

Methods

Several of the most noteworthy advances in cinematographic methods have naturally stemmed more or less directly from the introduction of faster films. Among them may be mentioned a marked trend toward the use of small lighting units.

Following the trend toward precision lighting noted last year, a decline in the use of the so-called "general" lighting units ("broads," "Rifles," Banks, etc.) and an increased use of spotlighting equipment, particularly of the modern, Fresnel-lensed type, has continued and increased.

This has developed into a marked tendency to use larger numbers of small spotlighting units. It has, of course, been most notable among the users of the new super-fast films, but even the users of conventional emulsions, more conscious of film-speeds, have to a considerable extent followed suit.

Related to this in a measure but basically a logical development in its own right is the marked increase in the use of photoelectric light-measuring devices by studio cinematographers.

Up to the early part of the year the use of such instruments by monochrome cinematographers was confined exclusively to exterior camerawork: but during the latter months, especially since the introduction of the General Electric meter, an increasing number of cinematographers have employed meters for interior scenes, as well.

It is generally admitted, however, that the ideal professional meter has not as yet been produced. Such an instrument must be a direct-reading, rather than a reflection-reading type, capable of covering an extreme range of brightnesses, yet small and compact. It is agreed that it should be primarily a light-meter rather than an exposure-meter, but with if possible a compensating adjustment for coordination with films of varying speeds.

In this connection it may be mentioned that an important advance during the latter part of the year was the appearance of a Weston film-speed chart which for the first time specified the development and gamma upon which each speed rating was based.

Another important development, which may well have far-reaching effects, was initiated in the Paramount production, "Say It in French," which utilized a considerable proportion of process background scenes, the background plates of which were photographed in famous New York hotels and clubs, making available

TECHNICAL PROGRESS IN THE PAST YEAR

By WILLIAM STULL, A.S.C.

settings which could not economically have been duplicated in studio sets.

Other productions now in work at the same studio are making further use of the same idea. This method may well extend the scope of production greatly, while at the same time effecting beneficial savings in set construction.

An interesting experiment, initiated by William Daniels, A.S.C., in filming "Marie Antoinette," was in the use of a special script clerk to assist the cinematographer in keeping accurate records of lighting and other technical details. On big productions, where extremely large sets are to be used, or where several production units must work in technical coordination, the plan offers marked advantages.

Film

Nineteen thirty-eight unquestionably must be recorded as the outstanding year of "fast film," even surpassing 1931, when the first Supersensitive Panchromatic film was introduced. At the beginning of the year the Agfa Ansco Corporation introduced two new films, Agfa Supreme and Agfa Ultra Speed Pan, respectively two and four times as fast as any previously available emulsions.

The former, which gave its increased speed with at least no sacrifice in grain quality as compared to conventional super-panchromatic emulsions and, in the opinion of many authorities, an actual improvement in fine-grain quality, was a sensational production emulsion.

The latter, which made some sacrifices in both grain and gradation, was primarily a newsreel and special purpose emulsion for use under extremely unfavorable conditions.

In the fall the Eastman Kodak Company followed suit with three equally sensational emulsions, Background-X, a super fine-grain film with twice the

speed of the firm's previous background film or approximately 75 per cent the speed of conventional super-panchromatic types; Plus-X, a high-speed, fine-grain production film with a speed twice that of conventional super-panchromatic emulsions; and Super-XX, a special purpose super-speed film, four times as fast as conventional emulsions.

These new products open important new avenues to both technical and economic advancement of cinematography. As regards the production emulsions, the added speed may be utilized either by stopping down, thereby obtaining increased focal depth; by reducing the intensity of light used, thereby effecting worthwhile savings in electrical costs, or by a combination of both.

The full possibilities offered by these new films have by no means been realized as yet, but they represent without doubt one of the most significant advances in many years.

Certain of these types are also available in the 16mm. field: Agfa's Supreme in the form of 16mm. negative, and Eastman's Super-XX as a 16mm. reversal emulsion.

Considerable interest has been aroused by the progress made by the Taylor-Sloan Corporation in the development of metal film for both still and motion picture use.

Color

Natural-color cinematography and photography have made important gains during the year. The Technicolor process has continued to improve, and has been used by an increasing number of producers, including some studios which for many years had been obviously reluctant to experiment with color productions. With the increasing use of the process, greater technical freedom has become possible, especially in the improvement of special process technique

HOW TO GET A WATER SHOT—Cameraman Leo Tover, A. S. C. (standing on boom) and his assistants are here shown making a "take" on the Bob Hope-Martha Raye comedy, "Never Say Die" at Paramount. Director Elliott Nugent is shown with megaphone.



and in the use of Technicolor cameras in aerial cinematography.

Strong rumors still persist, without official confirmation or denial, that the present three-film process will before long be supplanted by a single-film method, an adaptation of the "Kodachrome" monopack principle.

More concrete is the fact that Technicolor negative for the present three-film system but of considerably increased speed has been evolved. This has already been used for special purposes on actual production and the fact that it will soon be available for general use has been formally announced to the trade.

Several other organizations have also shown increased activity in the color field. Among these may be mentioned the Dunning Process Corporation, which announced the expansion of its former successful two-color process into a three-color method, and at the same time announced a new method of solving the physical and economic questions of color processing by licensing individual studio laboratories for the purpose, retaining the parent plant merely to handle independent production processing and research, while major customers process their color in their own laboratories.

Another entrant in the color field is the Jackman Process Company, using

bipack with improved methods of processing and printing.

In the substandard field, the Kodachrome process continued to gain in popular favor. The Eastman Kodak Company announced a service for making 16mm. Kodachrome duplicates, while several independent firms continued their activity in this field. One of them, the Stith-Noble Corporation of Hollywood, announced the first commercial 8mm. Kodachrome duplicating service.

Standard Cameras and Equipment

In the field of still color photography Dufay introduced an improved emulsion, Eastman brought out Kodachrome cut film for cameras up to 8 by 10, and Hessercolor made marked gains in the commercial making of color prints on paper from Kodachrome and Dufaycolor originals.

Little genuinely new development was evident in the field of 35mm. camera equipment. Progress in this direction consisted mainly of putting to commercial use previously developed products.

No new "silent" cameras appeared during the year. The self-blinded Mitchell "BNC" model, however, was put into service by several studios both in Hollywood and abroad. Certain other studios also modernized their camera equipment by replacing older cameras with new Mitchell "NC" equipment.

A notable happening of the past year was the revival of the once famous "Duplex" line of cinemachinery, including an excellent camera particularly suited for accurate bipack use.

Substandard Cameras

The substandard camera field has been considerably more active. There is a strongly marked trend toward an ultimate standardization upon 8mm. as the principal amateur film size, and 16mm. as a semi-professional standard.

One of the foremost developments as regards 16mm. cameras was the introduction of the Gumbiner Synchro-Sound 16mm. sound camera, which is to be distributed by the Ampro organization. This is a virtually professional camera using 16mm. film, and single-system recording. The camera is integrally blimped, and utilizes separate motors for driving the film past sound and picture apertures. The device seems definitely intended for serious professional and semi-professional use.

In the strictly amateur field, Bell & Howell's long-awaited introduction of a turret-equipped 8mm. camera indicates that at long last recognition is being given to the great body of advanced 8mm. users.

This new camera not only includes a three-lens turret, a feature long desired by 8mm. users, but also provides for full-frame ground-glass focusing in a manner reminiscent of the famous Bell & Howell Standard professional (35mm.) camera.

Abroad, the 8mm. user has received greater consideration. Foremost among recent designs catering to such filers is the (French) Emel, which includes a three-lens turret, a wide range of speeds, and a backwind crank for making dissolves.

Several examples of such other foreign 8s as the Ditmar, fitted with built-in optical or electric exposure meters; the Siemens, a magazine-loading type in which diaphragm and speed control are interlocked to permit automatic compensation for changes in camera speed; and the electric-driven Eumig C-4 have been imported to this country.

The Eumig firm, incidentally, has produced another model (not available except in Continental Europe) which has a built-in photoelectric exposure meter interconnected with the lens diaphragm to permit semi-automatic exposure control.

Extreme low-cost 8mm. equipment such as the "Univex" has opened movie-making to a wide new group of purchasers.

Accessory Equipment

The popularity of magazine-loading 16mm. equipment has continued, with the introduction of Bell & Howell's Filmo "141," an improved magazine camera adapted to the same type of magazine as that made for the popular Magazine Cine-Kodak.

Among the more important accessories introduced during 1938 was the General

Electric photoelectric exposure meter. While intended primarily for amateur use, the device has gained considerable favor among professional cinematographers.

The introduction of other photoelectric exposure meters of lower price, including the Weston Junior model, and the Rhamstine Electrophot, is also significant.

The greatest activity in the field of accessory equipment is evident in accessories for 16mm. and 8mm. filming. Important among such developments may be mentioned an excellent 8mm. film-viewer from Bell & Howell, and improved 8mm. and 16mm. viewers from Eastman, the two latter showing the picture in motion by means of an ingenious prismatic optical shutter.

Other accessories have simplified three major problems of substandard filming. One is Bell & Howell's new 8mm. titler, in which the camera lens is removed and the camera attached to the titler which is fitted with a special pre-focused objective.

Separate sets of globes are provided to fit interchangeably in the pre-set lighting installation to give correct exposures for monochrome and color reversal film or positive film. Thus the problems of focus, alignment and exposure are minimized.

Another valuable accessory is a fixed-focus enlarger made by Eastman for making enlargements from 16mm. frames, while another, of particular value to the users of the Magazine Cine-Kodak, is a ground-glass and magnifier assembly interchangeable with the regular film magazine, which permits accurate focusing through the lens with this popular camera.

Lighting

The marked tendency toward the increased use of spotlighting equipment, especially in the smaller sizes, has already been noticed. Important in this change in lighting methods has been the introduction of modern, Fresnel-lensed "baby" spotlighting units by Mole-Richardson and Bardwell-McAlister. Both use 500-Watt globes; the former is known as the "Baby Junior," the latter as the "Baby Keg-Lite."

Less obvious, but nevertheless a well marked trend, is that involving increased use of arc lighting in monochrome cinematography. Where formerly the use of arc equipment for special lighting effects in monochrome production was a somewhat rare occurrence, the development of modern, silent, steady-burning arcs has made it commonplace.

During the latter months of the year two new twin-arc broadside units were introduced: Mole-Richardson's "Duarc," Bardwell-McAlister's "Twin Arc Broad." The former utilizes a new dual feed, in which each arc is fed independently by an extreme slow-speed electric motor governed by the resistance across its arc. The latter uses a motor-driven feed

in which both arcs are fed together at a rate governed by the rate of burn.

Both lamps feature flickerless light and unusually long burning periods: the former burning without attention for over two hours, the latter for an hour and three-quarters.

Mole-Richardson also introduced a Fresnel-lensed 65-Ampere arc spotlight to round out its range of H. I. Arc spotlighting equipment.

An interesting accessory to the larger H. I. Arc units was developed during the year for special "spot-beam" effects. This is a system of supplementary lenses replacing the regular Fresnel lens.

The first of the type was developed for use at the 20th-Century Fox Studio, and similar devices were later put into commercial production by Mole-Richardson.

Special Process

The outstanding development in special effects camerawork was the increased facility in which both the transparency (background) projection process and miniatures were used in Technicolor. An important factor in this is the triple projection set-up used by both Paramount and Warner Brothers' special process experts.

The device consists of three projector movements and high-intensity lamp-houses projecting through a single optical system from matched prints. The images are superimposed on the screen, and result in either an average-sized image of greatly increased brightness—an advantage in color—or an image of average intensity but far greater size than has hitherto been practical.

Complementary to this is the perfection of the dual screen transparency system, in which accurately coordinated background plates, made by twin cameras, are projected on two screens, giving a larger and wider background than was previously possible.

The new fast films, permitting the use of reduced apertures, giving greater depth of field, has been of great benefit in process camerawork, as the screen may be placed farther behind the actors and still adequately in focus.

An important entrant in the manufacture of process projectors during the past year is the Mitchell Camera Corporation, which marketed a new process projection head as a companion to the Mitchell camera.

Laboratories

With the exception of the changes naturally incident to handling the new fast films, no great changes are to be noted in laboratory methods. A new plant was erected for the Warner Brothers' Studio, featuring greater detail refinements in equipment design, especially in automatic control of temperature and strength of solutions, and in provision against failure of any unit or of the outside supplies of power or water.

As this is written Technicolor is erecting an addition to its Hollywood plant,

to handle increased production, while Cinecolor is also erecting a new plant.

Sound

Aside from detail improvements in the major recording processes and the continued trend toward interchanging use of variable area and variable density recordings as the occasion demands, together with a more general use of bilateral sound tracks, "squeeze," etc., the main advances in this phase have been in the independent field.

Among these advances may be mentioned the introduction of the Art Reeves Ultra-Violet glow-lamp recording (variable density) and the Berndt-Maurer bilateral-track variable area galvanometer.

Another interesting device for background and commercial use is the new Art Reeves single-system portable recording attachment, which fits between the head and magazines of any standard camera, leaving the camera unchanged when sound is not necessary.

Projection

Most notable in the field of projection has been the introduction of several 16mm. sound-on-film projectors in the lower price ranges. Equally important is the introduction of the Eastman Sound Kodascope Special, first shown over a year ago, but not commercially available until this year.

Of great significance is the announcement by Bell & Howell and Ampro of 16mm. sound projectors fitted with arc lamps for use in larger auditoriums, schools, etc.

Coupled with a growing tendency among several major producers to make available 16mm. reductions of relatively recent theatrical films, this seems at last to presage the long prophesied use of 16mm. films for smaller theatres—a development which should be of importance to the industry as a potential means of reviving the prosperity of houses so small or so located that they cannot make money with the more costly 35mm. prints.

In Europe, several 16mm. arc projectors have also appeared, while for home use Pathe has announced a relatively inexpensive 9.5mm. sound-on-film projector and the establishment of a sound rental library in this standard. Despite the almost microscopic size of the track, 9.5mm. sound quality is said to be good.

Europe has also led the way in projectors quickly adaptable to the showing of films of more than one size. The Bolex-Paillard can be had in models equipped for interchangeable showing of 16mm., 9.5mm. and 8mm., while the Ditmar is available in a two-film (8mm.-16mm.) model.

The Bolex has an interesting feature in its adjustable shutter, which permits change from a four-blade shutter for flickerless home projection to a two-blade shutter for auditorium use where extreme illumination is needed.

Mention must also be made of the de-

(Continued on Page 46)



Left, Paul Muni tests a make-up for his role in "Juarez". This make-up was found slightly too dark. Right, make-up test of a Mexican player.

NEW TESTS COORDINATE MAKE-UP

By GAETANO GAUDIO, A.S.C.

ONE of the biggest problems faced by the cinematographer is that of coordinating make-ups. Our modern make-up artists have advanced their work to a point of perfection such that individual make-ups, viewed individually, can seldom be criticized. But when, on the other hand, we have to consider the many make-ups worn by the various players in a production in relation to each other we often find things going seriously and expensively wrong.

To cite a typical example, suppose we have a blonde woman like Bette Davis, whose make-up must be planned to accentuate the effect of her fair skin and coloring. Opposite her is cast a rugged leading man like George Brent or Pat O'Brien, wearing a darker make-up to enhance the suggestion of sun-bronzed masculinity.

With a skilled make-up artist like Perc Westmore in charge of make-up it goes without saying that each of these will be individually perfect. Pre-production photographic tests of each make-up will prove that. As the production gets under way, each player's individual scenes will confirm this.

Need Make-Up Coordination

The real make-up problem will present itself (and it does on nine pictures out of ten!) when these two players do their first scene together. Then

it will suddenly become evident that either Miss Davis' make-up is far too light or Brent's is far too dark.

Under modern production conditions, with both players and camera moving freely about the set, it is almost impossible to offset this by using less light on the woman and more on the man.

Despite all efforts of the cinematographer and the laboratory, inevitably there will be times when the woman's face suddenly appears chalk-white or the man's sooty. The trouble generally becomes worse as the make-ups of other players—especially those playing character parts—become involved.

And yet under individual photographic test each make-up seemed perfect!

When these satisfactory tests are run in comparison with the unsatisfactory rushes everyone concerned finds it easiest to point an accusing finger at the cameraman, saying "You used too much light testing the man's make-up and too little testing the woman's; no wonder they don't look right when working together!"

Direct Comparison

This problem has always existed. In the old days—for instance, when the writer for so many years photographed Norma Talmadge—there was a relatively easy solution. In addition to individual make-up tests additional tests

were made of each important player in direct comparison to the star.

Thus if the make-ups of the leading man, the "heavy," and the character players each appeared satisfactory in relation to that of the star all could be expected to coordinate satisfactorily with each other throughout the production. In case of doubt it was by no means uncommon to make an additional test of all of the principals together.

The same idea would be an equally effective solution to the problem today. Unfortunately, however, modern production conditions make such exhaustive tests virtually impossible. When the star is available, the leading man may be working overtime to finish a role in another production, while other key players may be busy in some other studio. As is well known, some important parts frequently may not be cast until after production is well under way.

What is needed, therefore, is some method of testing make-ups individually, while yet maintaining an unvarying, absolute normal in lighting, exposure and laboratory processing, which will scientifically coordinate the whole series of individual tests.

Normal Standard

In preparing for my current production, "Juarez," this problem reached gravely menacing proportions. There are over 65 speaking parts in the picture, the characters ranging all the way from extremely fair-skinned French and Spanish aristocrats, through olive-skinned Mexicans to swarthy Indians and Negroes.

The star, Paul Muni, plays Juarez, who was part Spanish, part Indian, and part Negro. Quite aside from the dramatic importance of the role, his make-up must be delicately handled to be convincing, for he must appear darker than the Spaniards and Mexicans, yet lighter than the Indians and Negroes.

To coordinate these make-ups with the necessary precision, the writer evolved a system of make-up testing which rigidly pins each test to an absolute normal of illumination and processing, yet imposes no restriction on artistic individuality in lighting or camera technique. So simple and successful has the system proved that it has been adopted by all the members of the Warner camera staff.

As will be seen from the illustrations, the system involves photographing as a part of every make-up test a large white board upon which is a graduated neutral scale of ten clearly marked divisions ranging from pure white at one end to black at the other.

This scale receives the same amount of front light as does the player being



tested. This illumination is held to a definite standard in all tests, and is of course measured by means of a photo-electric meter.

In my own experience, using Super-X film with the standard developing of the Warner Laboratory, this standard front light level is 200 foot-candles. Using any of the newer, faster films like Eastman Plus-X, this value would be materially reduced.

Similarly, individual differences in the processing standards of different laboratories would naturally alter this fundamental illumination level. However, once this standard of illumination for a given film and laboratory is determined, it remains constant regardless of any other altered factors.

Standardized Procedure

All make-up tests can thus utilize this standard neutral scale, and can be illuminated with a standard level of front light. The negative is then developed to the laboratory's predetermined normal standards of time and gamma.

The prints are timed with reference solely to the neutral scale—simply keeping the white end of the scale a pure, unclouded white and the dark end a positive black, with the intermediate gray graduations in their correct relative densities.

Thus we have a means by which we can key all our make-up tests to an unvarying, absolute normal. The front lighting is maintained in a uniform key throughout all tests. Exposure is also uniform. Negative development is standardized. Printing is likewise standardized, to always give an accurate reproduction of the graduated test chart.

The only factor which remains variable, and which can affect the rendition of facial tones, is the make-up itself.

Practical Results

If, in such a test, a face appears too dark or too light, it is obviously the make-up itself, rather than lighting, negative development or printing which is at fault. Similarly, if a face appears satisfactory, but the rendition of the chart is distorted, it is clear that some unauthorized juggling of laboratory processes has been done. If both face and chart are rendered satisfactorily the make-up must be correct.

Thus it will be seen that the testing

Left, testing the make-up of a character actress. Though the part required a light make-up, this was too light. Center, test of feminine make-up on a Mexican type. Right, test of feminine make-up for a Caucasian type.

of all make-ups can by this method be pegged to standards of photographic normalcy which remain uniform throughout any possible series of tests. Accordingly it may be assumed that if one character's make-up is so tested and found satisfactory, and another's either darker or lighter, as the part may require, is similarly tested, both make-ups will prove satisfactory, not only individually but in relation to each other.

It should be further stressed that this system, for all its technical rigidity, which is of course necessary if all photographic variables are to be eliminated from the tests, need impose no restriction upon the artistic individuality of the cinematographer once actual production is under way.

There is nothing in the system which can hamper the cameraman's freedom in lighting or force him to photograph his production in an arbitrarily fixed key.

On the contrary, it relieves him of worries in this direction, for he has made his tests of all make-ups in relation to a uniformly normal key. If in his production he raises or lowers the key of his lighting he can be confident that the effect on all of the make-ups will be uniform.

Considering modern production conditions this system has in practice shown a further advantage. Quite frequently the cinematographer directing the photography of a production may not be able to make all of the necessary make-up tests himself.

With this system in effect, as it now is at the WB Studio, he can be confident that any other cameraman can make such tests for him, even, if need be, in another studio, utilizing the standard scale, standard intensity of lighting and standardized processing, with the result that the other cinematographer's tests will coordinate perfectly with his own, and that make-ups found satisfactory by either man's tests will prove satisfactory when the players work together in the production itself.

Hollywood Forum Exhibits

The Hollywood Motion Picture Forum, an organization of Southern California educators, held a showing of motion pictures on the evening of December 3 at the Bell and Howell auditorium. Bruce Findlay, forum president, presided. One of the features of an unusually interesting evening was the comments of Marjorie Dowling Brown of the University of Southern California at the conclusion of the program. It would have been a feature in any evening's entertainment.

The program: "Still Waters," from 1938 annual A.S.C. contest. Photographed by Mr. and Mrs. Fred C. Ells of Yokohama, Japan. Shown by special permission of the American Society of Cinematographers and the authors.

"Yellowstone," in color, photographed by Ellis Yarnell, U.S.C. '37.

"Pack Trip to the High Sierras," photographed by Henry Washburn, directed by Dr. Boris Morkovin.

"Navajo Children," ERPI Classroom film, photographed by John Haesler.

"Wheat Farmer," ERPI Classroom film, photographed by Floyd Crosby, A.S.C., directed by Ralph Jester.

"Dance of the Hours," pictorial, symphonic classic.

Bell & Howell Publishes Filmosound Library Book

The Filmosound Film Library Book, just issued by Bell & Howell, provides a single film source adequate to meet the most diversified demands of educational institutions, industry, homes and communities. It comprises sound-on-film features, comedies, cartoons, adventure, nature subjects, music, religion, history, news reels, sports and teacher training.

Here are over 2800 reels of sound film offered for rental or sale by Bell & Howell. There is also much interesting information on the method of booking and servicing film prints, on the varied application of listed films to subject-matter fields, and criteria for the strict appraisal of all offerings. The book is profusely illustrated with scenes from listed films.

FROSTY FILMING

By

Ormal I. Sprungman

Photographs by the Writer



For striking silhouettes place your subject on the crest of a hill, with lighted flare on one side, camera on the other

FOLKS who live south of the shelter belts may have an edge on the balmy, sun-bronzed winters, but for real, honest-to-gosh moviemaking no scenery compares with the snow country of the North. Even the sports which predominate in the frostlands are tailor-made to provide bang-up action for warm-blooded cinematographers.

With such a wealth of material at hand it is not unusual for moviemakers to engage in a round of head-scratching, wondering what to film and where to start. Perhaps this article might offer some continuity ideas and angles new to your camera, suggestions that might enliven your winter and spring showings.

If you've filmed snow before, no doubt you've realized the need for a yellow filter and a small aperture to reduce light glare. Perhaps your snow filming has been limited to mere potshots of

shoveling the front walk or sliding down hills. You're looking for new approaches to this perennial filming topic, and you want to bring home something more than just frost-nipped fingers and a dripping nose.

Ever try making ski movies? Not just a few misplaced poses by friends, topped off with a couple of faked tumbles, but a first-rate masterpiece of action, artistically photographed and educationally produced.

Will Put on Run

If you reside in an area where skiing is foremost, chances are that ski slides will be as numerous as city park wading pools for the youngsters. Along every ski run you will find better than average skiers, occasionally a professional, most of whom are happy to demonstrate their prowess before your lens.

If your demonstrator is a patient fel-

low, you might even coax him to go through the Christiania and Telemark swings, and the Galandesprung, a second time, so that you can reshoot in slow motion. Once you have obtained these shots, doping out a continuity should be the least of your worries.

For instance, you might unfold the story of a beginner buying his first skis, trying the hills, falling down every time, until finally he hires a tutor. The instructor goes through all the swings gracefully and with rhythm. It looks easy.

With renewed effort the beginner returns to his solo skiing, but falls on the first hill just as hard as before. End with a close-up of his snow-drenched face for a chuckling fadeout.

Let's study this brief scenario a bit more deeply. When ready to film, we might start out like this.

Yet Maybe Not

Open with a closeup of a book lying on the table. Its title is plain lettered: *Skiing Is Easy*. A hand reaches over, draws the book away, and fingers begin turning the pages. The camera pulls back to show a young fellow, one foot straddling the arm of an easy chair, engrossed in the perplexities of skiing. Suddenly, the lad snaps his fingers and sets down the book with a determined look in his face.

Dissolve into a worm's eye view of a downtown sporting goods store sign, panoraming down to disclose the same lad looking in the window and finally entering the shop. Next comes the selection of the skis, the fitting of the ski boots, and the boots to the harness.

For these store interiors, photoflood illumination will be needed, and the use of Eastman's Super-XX, which is twice as fast as ordinary supersensitive movie



Winter sunsets in color furnish shooting material for a whole season.



Ice angling up in the snow country is one sport that deserves to be filmed. The fishermen themselves often provide interesting character studies.

Set up your camera for another worm's eye view of our skiing friend on the hill. He is bursting all over with confidence. A few running glides, and he's gone with the wind.

To show the downward descent from a new angle, box your camera in a protective covering, and hold it in your hand at your side with motor running as you go on down. To show exaggerated, breath-taking speed, shoot at 8 frames per second instead of the usual 16.

When you are half way down hill, start swinging the camera jerkily in every direction, finally simulating a nose dive into a drift by pointing the lens straight down. This is supposed to resemble the uncalled-for antics of a skier doing a fancy flip.

Next, take a medium shot of a huge pile of snow with only the skis sticking out. Swing in for a close-up of the face in the drift. Fadeout.

This ski film can readily be covered in 300 or 400 feet. Naturally, more footage should be devoted to the professional ski scenes, for most winter sportsters enjoy watching technique. Slapstick is built around these serious scenes to lighten the cine menu. If properly photographed, the audience reaction should rate high.

So much for skiing. Skating or ice-boating are similarly filmed.

Less than twenty years ago, skiing was far from popular, tobogganing and snowshoeing, as practiced by the Indians, stealing all of the thunder. If one of your friends is fortunate enough to own a pair of snowshoes and able to use them, you can secure some striking woods scenes in snowtime.

(Continued on Page 28)

film, will offset any deficiency in the amount of lighting equipment on hand.

Most store owners would gladly cooperate in staging these scenes for the publicity derived. Naturally, all shooting should be done after regular hours, and if other "customers" are needed for the background, employ your friends as actors rather than rely on lens-peering strangers.

Camera Follows Feet

The final shot filmed in the store will show a human hand adjusting the harness to fit the ski boot. Dissolve here once again, this time into an outdoor scene showing a closeup of a gloved hand making a similar adjustment on snow-covered ground.

The camera follows the ski-clad feet as they move over the crusts, then lifts slowly as the skier glides off in the distance.

Now find a steep hill, the steeper the better. Set up your camera on tripod part way down the incline and point the lens up towards the brink. By means of a predetermined signal, start the camera motor running just before our friend skis along to the top of the hill. With good picture clouds in the background, this angle shot should provide an excellent silhouette study.

Glancing to right and left, the skier pauses, swells out his chest, and starts bravely down the slope. Pull back for a long shot of the entire hill and show the tiny figure racing out of control, finally

plummeting head over heels into a drift near the camera.

He rises slowly to his feet, looks around sort of sheepishly, brushes off the snow, and starts herring-boning up the hill. Nothing can dampen his spirits.

Once atop the knoll, he goes through his heroic maneuvers, shoving off again. This time use your 3 or 4 inch telephoto lens and follow his downhill course. The script calls for another fall, with skis, legs and arms extended in all directions. As you close in with your camera for a near shot, a finger taps his shoulder. Our snow-covered skier looks up. A hand points to a sign on a nearby cabin. A closeup of the sign reveals: "Ski Lessons, \$10."

Show Handshake

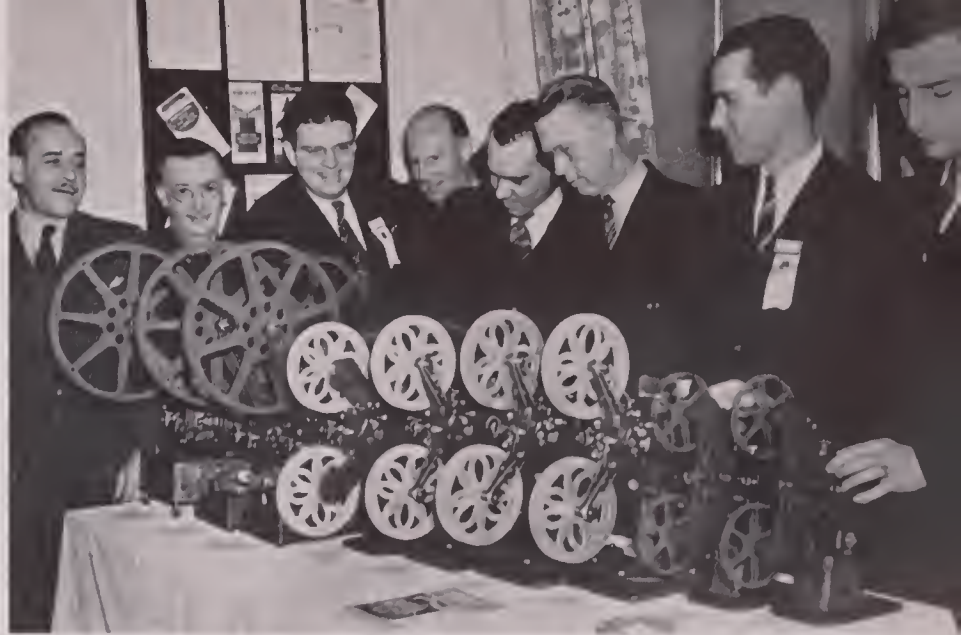
Next, shoot a closeup of shaking hands as the amateur greets the professional. A billfold opens and a ten-spot changes owners. Now is the time to cut in the real skiing shots, revealing perfect form and technique.

Return occasionally to closeup the amateur who marvels at the performance. The professional shots of skiing can be filmed at any time and cut in at this point. To authenticate these scenes, however, show another handshake and a pat on the back as the professional returns to his cabin.

Doubtless the finest scenics are filmed after a fresh snow. To add human interest, let a hiker, skier or snowshoer move through a scene such as this.



Bell & Howell's Western Branch Entertains Dealers



Gathered about this array of projectors are Cliff Thomas of the Hollywood Camera Exchange, M. S. (Mickey) Ward of the Los Angeles Camera Exchange, Jack Waller, assistant Filmo sales manager of Bell & Howell, President Bill Winter of the Southern California Dealers' Association, Mr. McLane and President I. N. Collins of Winstead Brothers, and Russell Sievert and Sigmund Diamond of Bell & Howell Company.

ON THE evening of November 29 the Bell and Howell Company entertained the dealers of Southern California, ranging in location from Fresno to San Diego, at a dinner and an exposition of new equipment. Twenty-five cities were represented. Over 200 sat down at the Mona Lisa at 6:30. At 8 o'clock a substantially larger number attended the Bell and Howell building in La Brea avenue.

The manufacturing company was represented by its western district manager, H. W. Remerscheid, and the Southern California Dealers' Association was represented officially by among others its president and secretary, William (Bill) Winter and Earl Boaden respectively.

From 8 until nearly 11 o'clock the party thronged through the big building in La Brea avenue near the corner of Melrose avenue. One of the greatest attractions was the factory, the main

room of which is 50 by 75 feet in dimensions, where the company had arranged with its employees to continue with their routine work. Others were the new Filmo turret 8 movie camera and also the Exakta line of cameras and Exakta lenses.

One of the impressive arrays of equipment was that of nine projectors, arranged in a series from the littlest eight to the biggest sixteen. Another was the B & H professional printer, which occasioned much interest. In the auditorium the various projectors were demonstrated, sound as well as silent, including the new 16mm. 1200 watt lighting system. For two straight hours there was a full house.

So successful was the occasion, in spite of its being the first of its kind, that already it is contemplated making the dealers' exposition and dinner an annual affair.

Among the many dealers present were noted:

W. J. Winter, of Winter, Inc.; M. S. Ward, owner Los Angeles Camera Exchange; E. T. Boaden, Simpson's Camera Stores; J. W. Peterson, president Peterson's Camera Exchange; Miss Mabel Chenoweth, manager camera department J. W. Robinson Co.; William Steeg, manager Home Movie Library and Equipment Company; Ken Allen, manager camera department, Schwabacher-Frey Co.; J. E. Seamans, manager camera department Slavick Jewelry Co.; Cliff Thomas, owner Hollywood Camera Exchange, all of Los Angeles; I. N. Collins, president Winstead Brothers, Inc., Long Beach; L. B. Fellows, manager Bunnell Photo Shop, San Diego; W. A. Weir, manager Ward-Weir Photo Shop, Long Beach; Earle McCutchan, manager Camera Supply Co., Long Beach; A. L. Kirkhuff, Glendale; Lester Goetzinger, manager The Flag Studio, Pasadena; Richard Fromm, Pasadena.

Among the Bell & Howell Company staff assisting Messrs. Remerscheid and Carlson were Jack Waller, Walter Evans, Don Weed, Art Bolt, Russell Garceau, G. C. Barnette, and John Runk.



A corner of the dining room where two hundred Southern California photographic dealers and their aids and families sat down as guests of Bell & Howell. At the upper left and swinging to the right H. W. Remerscheid, Western district manager B. & H., and Bill Winter, president Southern California Dealers' Association, are in earnest discussion, football maybe; E. F. Carlson, Western Filmo sales manager; Earl Boaden, secretary association; Barbara Brewster, Jack Muleahy, Twentieth Century-Fox publicity, and Gloria Brewster complete the list at the speakers' table.

SHERLOCK'S

"NATION BUILDERS"

WINNER

JAMES A. SHERLOCK of Sydney, Australia, repeats this year in his performance of 1937 in winning the grand prize of the American Cinematographer's annual amateur motion picture competition. The battle for the 1938 award was the seventh in the growing length of the series of unbroken contests.

The award was \$200. The picture was "Nation Builders," truly an epic, a documentary in the strict sense, and one that might have qualified for the photographic award. For that matter, so might all the others named in the top flight. Extended attention will be given this pictured history of the foundation and growth of Australia on another page in this issue.

One of the more notable phases of the 1938 contest was the distinct gain in the relative number of 8mm. films as compared with the 16mm. Last year there were but nine out of sixty films of the 8mm. size submitted.

This year twenty-one out of forty-five subjects were submitted in 8mm. The twenty-one films totaled twenty-four reels, of which fifteen were in color and but nine in black and white.

In 16mm. the twenty-four subjects were submitted in thirty-two reels, of which seventeen were in color and fifteen in black and white.

This year two out of the seven major

prizes were on 8mm. film. Last year no one of the major contestants was on 8mm., although one of the major equipment prizes was awarded to an 8mm. entrant.

The picking, the selection, that fell to the judges was considerably tougher than last year. There were more survivors of the initial tryout.

The Winners

"Vida Pacoima," 8mm. color, won the award for photography. It was submitted by Randolph B. Clardy of the Los Angeles 8mm. Club, a veteran of American Cinematographer contests. It was a picture of a little town in San Fernando Valley, just outside Los Angeles. The photographer had looked in on the sleepy little Mexican village—it really might have been Mexican so far as nationality is concerned—over a period of months and shot what he found.

He had found a multitude of little things—goat chewing its cud or rolling on its back; a priest, solemn of mien and looking directly at the camera and yet not seeing it, ringing the old-fashioned church bell; churchgoers entering the church and another sequence showing them departing, with the attendant chatter; shooting through fences at children going somewhere, but always on the move.

In fact, the picture always moved. Sometimes it was a corner of a house, with the sky above it. Sometimes it

was just human beings—never particularly prosperous ones, but always human beings as they are to be found in their unposed state. Nearly always the subjects knew little or nothing of their photographer. Only occasionally did a child stop and peer curiously for the instant allowed him toward the camera.

"Beyond Manila"

"Beyond Manila," 16mm., was given the nod for best color. There was plenty of competition, too, in that department. W. G. Hahn of Baguio, Mt. Province, Philippines, was the excellent photographer and producer generally of that subject. For the picture was strong in all departments, in fact, it was the final contender against the winner of the grand prize.

It is in three reels. Like the title, it is really "Beyond Manila." It takes the follower into a country that has been little photographed, one part of that territory being the land of the Igorrote, in Northern Luzon. There is much to be seen of the people, the way they dress and live and work.

There's abundant scenic beauty in the Philippines. We see many evidences of it in the pictures here shown of mountain and plain—of stream and waterfall. The natives, too, are real workers, women as well as men.

"Ritual of the Dead"

"Ritual of the Dead," in sound on disk and black and white, was given the award in the scenario division. It is the latest example of the work of Richard H. Lyford, who has just attained his majority with a record of nine photoplays to his credit as well as many stage plays.

As has already been set forth in these columns, this young man has an unusual background. With the active cooperation of his mates in high school in Seattle and the support and cooperation also of his parents he has been able to accomplish more in the production of photoplays than any other of his age. We are inclined in this connection to take in considerable territory—and still believe we are correct.

"Ritual of the Dead" is an old-fashioned thriller. The leading characters, that of the young man who murders

THE WINNERS

Grand Prize, \$200.—"Nation Builders" (16mm. black and white); James A. Sherlock, Sydney, Australia.

Best Photography, \$50.—"Vida Pacoima" (8mm. Color); Randolph B. Clardy, Los Angeles.

Best Color, \$50.—"Beyond Manila" (16mm. Color); W. G. Hahn, Baguio, Mt. Province, Philippine Islands.

Scenario, \$50.—"Ritual of the Dead" (16mm. black and white); Richard H. Lyford, Glendale, Calif.

Scenic, \$50.—"Hot Water" (8mm. Color); Earl Cochran, Colorado Springs, Colorado.

Documentary, \$50.—"Chicago the Vacation Center of the Nation" (16mm. Color); Theodore D. Shaw, Chicago.

Home Movie, \$50.—"Santa Visits Elaine" (16mm. Color); John E. Pohl, Cicero, Ill.

Special Award.—"Jello Again" (16mm. Color); Carl Anderson, Los Angeles.

rather promiscuously and the tattered mummy who returns to life seemingly to accuse the murderer after the latter has reason to believe he has safely escaped detection for his crimes are carried by the producer.

The denouement of the story, which is just that we have here intimated, carries a real thrill. As one who saw the picture first in its silent form and then saw and heard it in conjunction with the sound we can certify to the added thrill that attended the combination.

It is the first use of sound in the seven contests that have been held in the series. There undoubtedly will be more of these. If they are as well done they will be worth while, for undoubtedly there is plenty of accompanying grief in the making of them—even to one as well acquainted from the amateur side with the difficulties of writing, preparing, directing and simultaneously acting in a picture as is the young producer who has gone so far in the field of miniatures and sound.

"Hot Water"

"Hot Water," by Earl Cochran, S.A.C., of Colorado Springs, is 375 feet of 8mm. Kodachrome. The subject covers with considerable thoroughness a visit to the geysers. The photographer, although he has been making motion pictures but a year and a half, shows plenty of promise for even more work out of the ordinary when he gets better acquainted with problems of exposure and color.

That is not said in any manner of derogation of the work that took the nod for the present subject. Of the filters used he employed Kodachrome haze, K-2, A and Pola-screen. The excellent photography is embellished by carefully executed diagrams of just what makes the water hot and what makes it bubble and flow.

"Chicago Vacation Center"

"Chicago the Vacation Center of the Nation," which was awarded the honors in the Documentary class, was photographed in 16mm. color by Theodore D. Shaw of the Metro Movie Club of Chicago. Mr. Shaw has been making movies for eight years, which fact perhaps explains why he was able to accomplish what he did without the use of filters or other effects.

The film gives an excellent portrayal of life in a big town, starting with the day as Chicago appears at sunrise. Perhaps it would be difficult to name a city which possesses so varied a background in its lake and river and bridges. Certainly educational authorities searching for subjects that portray with authenticity life in metropolitan centers could not go wrong in seeking this fine picture of Chicago. The subject rates in all departments as a finished film.

"Santa Visits Elaine"

"Santa Visits Elaine," 16mm. in color, by John E. Pohl of Cicero, Ill., was the winner in the home movies class. The



James A. Sherlock

Honorable Mention

Scenario

"The Phantom of Suicide Gulch," 8mm., b&w., Earl Cochran, Colorado Springs.

"Pagliacci," 16mm., b&w., William S. Mehrling, Appleton, Wis.

"Dangerous Border," 16mm., b&w., James H. McCarthy, Los Angeles.

"Aftermath," 8mm., b&w., A. B. Callow, Compton, Cal.

Scenic

"Alaskan Cyclorama," 16mm., color, R. C. Denny, Fresno, Cal.

"Midsummer Night's Dream," 8mm., color, John E. Walter, Los Angeles.

"The Great Roaring Waters of Niagara," 8mm., color, Joseph F. Hollywood, New York.

Photography

"Still Waters," 16mm., color, Fred C. Ells, Yokohama.

"Rancho Paicines," 16mm., b&w., Henry L. Washburn, Santa Cruz, Cal.

"Autumn Around Fuji," 16mm., b&w., Khoji Tsukamoto, Tokyo, Japan.

Color

"Summer in Switzerland," 16mm., color, G. L. Rohdenburg, New York.

"The Milkman, Our Community Helper," 16mm., Eugene H. Herrington, Denver.

Documentary

"Still Waters," 16mm., color, Fred C. Ells, Yokohama, Japan.

"Happy Farm Woman," 8mm., color, George Oliver Smith, Weiser, Idaho.

"Growers' Friends and Foes," 8mm., color, Harold Warner, Santa Ana, Cal.

Home Movie

"Shadow's Bones," 16mm., b&w., Frank E. Gunnell, West New Brighton, N. Y.

"The Honeymoon Is Over," 8mm., b&w., W. T. O'Dogherty, San Francisco.

"Night Before Christmas," 8mm., color, Joseph F. Hollywood, New York.

picture is finely done. It greets you with an unusually strong title when it flashes upon you on the screen. No filters are used. There are few characters in the story—as a matter of fact Elaine and her mother carry the greater burden of the cast. To be sure, Santa is in the limelight for just a moment, long enough to do a little tree and interior decorating.

Elaine looks a trifle large to accept as gospel truth all the conversation sometimes handed to children about the comings and goings of Santa Claus, but the young lady does or is caused to do one good deed which may indicate one of two things: Either she is going to do her utmost to entertain Santa while he is visiting that house or else she has a line on the habits of the male person who is in her mind slated to do the hanging.

She very prominently places a bottle of beer and a large glass right where the visitor cannot miss it. Does he miss it? No, he does not. In spite of the obstacle presented by the phoney mustaches he gets around them.

The subject had a reasonably clear field with the exception of "Shadow's Bones," the work of Frank E. Gunnell of West New Brighton, N. Y. That required an extra session and a special committee.

Special Award

"Jello Again," a 16mm. subject in Kodachrome by Carl Anderson, of Los Angeles, is 150 feet in length, and because of its unusual character was given a special award by the judges. It is a cartoon, surely a novelty in an amateur contest. It is smoothly done, especially so in view of the stiff medium in which he was compelled to work.

At the picture's completion the photographer had spent nine months or more or

(Continued on Page 44)

PLUS

X

Ruttenberg Takes November's Photographic Honors

By GEORGE BLAISDELL



Joseph Ruttenberg

Photo by Grimes

JOSEPH RUTTENBERG, A.S.C., ran away with the photographic honors in the Hollywood Reporter's poll for November. The picture was "The Great Waltz," an M.G.M. production. Incidentally it was the third successive month in which a subject from that studio had taken the larger honors—i.e., had been tabbed as the best production of the month.

It naturally had to be the best production of the month because of the firsts it took along. Not only was the vote for the best photographer. The poll declared it had the best director, Julien Duvivier; the best actress, Miliza Korjus; best incident performance, Christian Rub; best screenplay, Samuel Hofenstein and Walter Reisch; best musical score Dmitri Tiomkin.

It was Joe Ruttenberg's good fortune to be assigned to a picture destined to be so successful. "The Great Waltz" would have been a good picture even without the presence of the glamorous creature who took the part sustained by Miliza Korjus. With the glorious songstress doing her part, however, the work of all the other factors was lifted to their own best levels.

Continually it is impressed upon us there is no royal road to success; that work well done is not an accident; that behind a success there are hundreds of days of hard work, of close application, of thousands of hours in unnoted apprenticeship.

Can Chuckle Now

Joe Ruttenberg has been all through that. He can talk about it now with a

chuckle, although there were times in his earlier days when a chuckle was far from being exactly uppermost in his thoughts.

The photographer of "The Great Waltz" first saw the light in Eastern New England, in Lynn, Mass. As it happened to be the same town in which this reporter also was raised there was a moment or two devoted in the conversation to that shoe town. But the future cinematographer slid out of the town when six years old and moved a few miles to Chelsea.

Ruttenberg's first employment was on the Boston American as copy boy. It was a fulfillment of a secret ambition—to work on a newspaper. His pay was \$3 a week. That sum must have been a standard rate for cubs in New England print shops, for it squared with the break-in pay received by another lad many years earlier a half dozen miles north of Boston.

Liked Newspaper Work

His joy in his new employment was short-lived, seemingly. A tip from the clerk of one of the editors came to him one morning that owing to a surplus in copy boys some were being laid off, and he was slated to be through at 3 o'clock that afternoon. Bitterly disappointed, the lad put wings to his feet up to 3 o'clock. At that time word was conveyed to him that not only had the boss changed his mind about firing him, he was to get a fifty-cent raise.

And for a year or more young Ruttenberg ran copy from the city room to the composing room, he went out on

assignments to help photographers carry their equipment, he went to ball games to bring in copy, to court rooms on a similar errand. He liked the work.

So when word came to him he was due for a promotion and was asked in what department he preferred to be placed he promptly replied:

"In the photographic department."

Some time before he was lifted into the camera room one of the staff men in arranging for a flashlight had lost an eye. The order went out there was to be no more flashlights taken on the paper—regardless of circumstances. A week after Joe's elevation to a camera toting job there was a disastrous train wreck near Boston. At the time of its occurrence Joe was alone in the room, the others being out on assignment. It was in the evening, so Joe began arranging for flashlights and powder.

Immediately there were protests on the part of others. The editor stood for the rule. Finally the young photographer threw his flashlight on the table and said he would go out and get some pictures without flashes. How he was going to do it was beyond the ken of his fellows.

At the scene of the wreck the lad hung close to those preparing to cut loose a flash. He got the picture at the same time his competitor did. He did it repeatedly until he had secured a goodly number of shots. He hurried back to the office.

There to his dismay he discovered there were no other photographers on duty in the office—and he had only been on the job of developing for a week.

There was no alternative. He must do it—and with those super-precious negatives.

The city editor stood behind him when he pulled the first negatives out of the soup. As he saw the contents of one of the pictures he danced. "How did you get it?" he demanded.

Made Page of Pictures

But the negatives were good. There were enough of them to make a page, with the photographer's name prominently displayed. There was a bonus for it, too. The new staff photographer was away to a good start.

There was another adventure later on, one that also, incidentally, had to do with that dangerous flashlight. The photographer of "The Great Waltz" remarks in passing the still men of today do not realize what a blessing the present photoflashes are.

A murder had been committed. The torso had been found—and nothing more. The police were stopped. Then one night the city editor got a tip a member of the crew on a ship anchored in the bay had pulled aboard a suitcase floating alongside his vessel. In it he found a hand and arm bearing a signet ring.

Joe took a flashlight and equipment, this time under instructions to get a picture of the setting in which the suitcase had been found. In a boat he rowed out with an assistant. The bay was as dark as the inside of a cow. Quickly set, there was an unusually heavy flash, but apparently no damage was done.

After the two had proceeded some distance toward shore they suddenly noted a lot of water in the boat. The quantity increased steadily. It dawned on the two men they had blown a hole in the bottom of the boat and that it was on the way to sinking.

At the same time it likewise dawned on the staff photographer that as a swimmer he was nil. And then there, too, was the picture. There was nothing to it but to pull for the shore—and pull hard. The two of them made it; although it was a call too close, much too close, for comfort.

But it was a good picture.

There was another instance where for a time it looked much like thirty days in jail. A tong war was on in Boston—and those who have lived in cities where those feuds thrive know they are bad medicine for any neighborhood. Wholesale arrests had been made, with the two factions herded into cages. Yes, and care was taken that no man was put into the wrong cage.

The presiding justice was a hard-boiled Federal, and his instructions were strict at all times that there were to be no pictures in the court room. Joe and his partner were in court early. As the Chinamen were brought in and stowed in the cages the two men prepared to jump. The judge had not arrived. Joe had quickly laid his plans and his assistant had been told to grab the tripod

and run to one exit, while Joe with his equipment took to another, in case the judge entered.

Then suddenly the judge did just that, even as the exposure was made. He saw the tripod and camera going through one doorway and the rest of the equipment going through another.

"Stop those men!" he shouted. "Arrest them and bring them back here!"

But the two were through the doors and tearing up the street toward the American office. To the inquiries of pursuing but friendly policemen there were returned replies that hardly could be relied on. When Joe arrived at the office out of breath the city editor was waiting for him.

"Too bad, Joe," said the latter. "But the judge has just phoned me that if that picture is printed you will go to jail for contempt. And he may decide to send you anyway."

"Well," remarked the staff photographer, "he can't do anything to me for printing it, anyway."

The negative was developed and printed and proved to be a rare picture, showing the faces of scores of thoroughly frightened Chinamen. The regular court reporter returned to the office and saw the photograph.

"Let me have that picture," he remarked. "I am going to show it to the judge. I have an idea we may use that yet."

The judge looked long and hard at Joe's picture. "That's a pip of a shot," he admitted. "I'll tell you what I'll do with you boys," he added deliberately. "You get me a big enlargement of that picture for my chambers here and you may print the shot."

"That will be quite easy, your Honor," said the reporter as he grabbed a telephone.

Eight Years on Paper

For eight years Ruttenberg was on the Boston American. Then he was tempted to accept an offer from the Boston opera company to come along as staff photographer. One of the first assignments was to accompany the troupe to Paris. On his return from abroad he became interested in motion pictures.

His initial effort in that direction was inauguration of a New England news reel, of which he supplied 1000 feet a week for the Loew theatres in Eastern New England. For this work he built his own developing plant.

Ruttenberg was drawn away from the news reel by an offer to join the Fox Film Corporation in New York. Here he remained ten years. One of the pictures he photographed while on this long affiliation was the famous "Over the Hill," in which Mary Carr became famous.

Another picture was Hutchinson's "If Winter Comes." For exteriors of this subject he journeyed to Canterbury, England, where a majority of the shots were made. A few were also exposed around London.

Then there followed the formation of a screen test plant, in which it was his idea to take screen tests of competent stage players and submit them to the studios. In the short time in which he was operating this studio he made tests among others of Claudette Colbert, Sylvia Sydney, Margaret Sullavan, Helen Hayes, Paul Muni and Walter Huston.

In Hollywood 3½ Years

Three and a half years ago Ruttenberg came to Hollywood. He made one picture, "The Manhunt," for Warners'. Then he went to M-G-M, where incidentally he had never worked before—and where he has worked exclusively since.

Among some of the pictures he has made there are "Three Godfathers," "Fury," "Piccadilly Jim," "Day at the Races" with Marx Brothers, "Three Comrades," and "Shopworn Angel."

When the cameraman was asked the location of the sequence for the Vienna woods in "The Great Waltz" he smiled. "That was a pretty location, wasn't it?" he answered. Although literally the country over was hunted to find such a place eventually it was spotted within forty miles of Hollywood.

Asked if he had any preference between interiors and exteriors the cameraman replied that in the interiors light was the more easily controlled. He expressed the opinion that with the fast film now available better results would be secured on medium shot exteriors and closeups by making them interiors so long as there were no panoramas.

He cited the instance of "Three Comrades," wherein the very nature of the panorama of great mountains of snow made work with the camera practically impossible. Here he pointed out with proper scenery realistic results were obtained.

The cinematographer left no doubt as to his appreciation of the co-operative assistance given him by his crew. These were Herbert Fischer, operative cameraman; R. King Kauffman Junior, assistant; Paul Keeler, gaffer, and Leo Monlon, grip.

Victor Price Reductions

Victor Animatograph Corporation, Davenport, Iowa, recently announced substantial price reductions on 16mm. silent projectors.

The Model 11 Master Projector, formerly listing at \$148 complete with case, is now priced at \$125, with case included. If 750 watt lamp and fast F1.6 lens are desired in place of the 500 watt lamp and F1.85 lens supplied as standard equipment, the price is \$132.50.

The Victor Model 22 (1600 foot film capacity) has been reduced from \$187.50 to \$175. This is a "blimp" model which is inclosed in a case during operation. Standard equipment includes 750 watt lamp and 2-inch F1.85 lens.

STILLS FROM 8MM. FILM

By ROBERT W. TEOREY



Raised from 8mm. film was this still of Tokyo schoolboys in military uniform.

AN achievement worthy of the efforts of every moviemaker is the building of a contrivance to enlarge still prints from their moving picture scenes. Not only can the pictures be added quite creditably to the family album but they can be put to a use quite valuable in cine filming, and that is for title backgrounds that actually tie in with the scenes described and to which related scenes work in with admirably.

The old saying that necessity is the mother of invention is one with which I heartily concur. Recently desiring several 8mm. enlargements I sought for some one to make them for me. Failing in my efforts I decided to make the means to enlarge my own, which brings me back to my earlier remark anent necessity and invention.

Removes Condenser Lens

In contriving my enlarger the first consideration was a method to project an image on ordinary roll film to produce negatives. Experimentation with photoflood bulbs and various magnifying objectives convinced me that my movie projector would be the quickest and most satisfactory medium if I could adapt it to projecting a still picture without the film burning as soon as the heat screen was opened to permit a clear passage of the light beam.

I discovered the solution at the very beginning by removing the condenser lens which is immediately in front of the lamp. Inserting a length of 8mm. film into the projector gate I next disconnected the spring belt from the motor to the claw operating mechanism to prevent the film from being actuated and then raised the heat screen within the lamp house with a piece of fine wire.

The lamp and the motor which now was only operating the cooling fan were switched on and a brilliant image from the test strip of movie film was projected for several minutes with no apparent harm to the emulsion.

Projection difficulties having been eliminated, the next decision to be made was the size of picture to record. I quickly accomplished this by projecting a picture on a near wall and moving the projector forward until I had secured an image slightly less in width than roll film size 116.

I estimated this would provide me with a negative approximately $2\frac{1}{2}$ by $3\frac{1}{2}$ inches in size, which I deemed about right considering the great amount of magnification necessary to produce a negative of that dimension from an 8mm. frame.

Measuring from the wall to the lens of the projector, an Eastman Model 50,

I found the distance to be slightly less than 18 inches. This figure served as the basis for the construction of my 8mm. enlarger (Fig. 1).

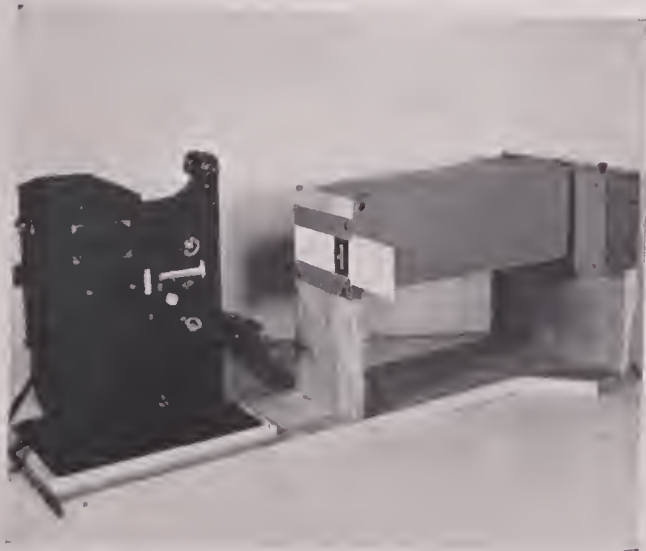
The description of this contrivance will be merely general and not deal with actual measurements as various projectors, 8mm. as well as 16mm., would necessarily require variations in the dimensions of the segments used in building a similarly operating device.

Projects Still

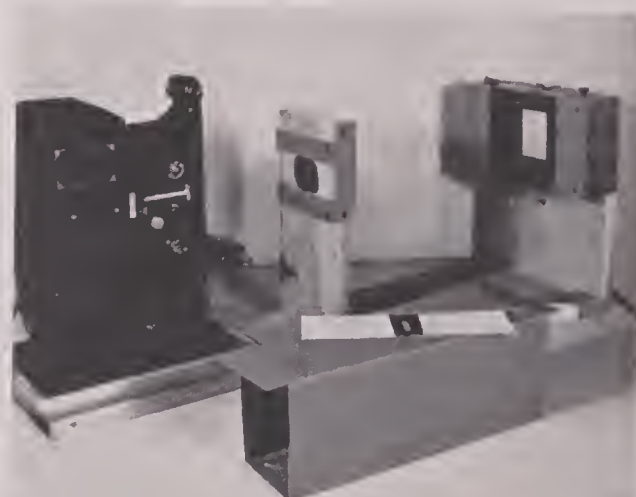
Baseboard and uprights were sawed from a long piece of pine lumber three-quarters of an inch thick by 12 inches wide. The base had sufficient length for mounting the projector on one end and attaching the film holding upright to the other at the distance from the lens previously figured to give me the size negative desired.

The height of the end upright was determined briefly by placing the projector in position and holding the standard in place at the opposite end of the base, after which I projected a still picture which I carefully centered with the framing device.

I then outlined the illuminated area with a lead pencil and allowing a three-quarter inch margin at the top for the upper cross piece of the film holder I cut



*Left,
Figure 1,
enlarger
complete and
ready for
operation
Right,
Figure 2,
Shielding
tube and
shutter
removed.*





*Left,
Figure 3,
end upright
with film
holder
lowered
for loading.
Right,
Figure 4,
Shutter
upright
and shutter
in place
for exposure.*



the upright and secured it to the end of the base. (Fig. 3).

The roll film holder was cut from a piece of soft wood three-quarters of an inch thick by $1\frac{1}{2}$ inches wide and when finished consisted of a frame in the form of an H with two cross bars. The area between the bars or uprights of the frame measured $2\frac{1}{2}$ by $3\frac{1}{2}$ inches or the size of the negative to be exposed, while the margin at each end had sufficient room for the full roll and take up spool. (Fig. 3).

The two uprights in the frame were slightly longer than a 116 film spool and were inset about an eighth of an inch to allow space for the film and for thicknesses of cardboard secured to the frame holder to act as a pressure plate. The frame was next drilled at the film spool locations to accommodate cut-off nails or bolts which served to hold the spools in place.

Identical Alignment

The threaded end of a large bolt with a knurled top was filed flat to enter into the slot of the take-up spool, thus making it quite simple to wind the exposed film on to the empty spool.

Two small hinges on the bottom of the frame served to fasten it in place on the end upright, while a catch or hook at the top held it secure and facilitated in opening the assembly for loading with film.

Next placing the projector in position on the base I switched on the lamp and carefully aligned the image within the film holder. When centered to my satisfaction I nailed strips of wood snugly about the projector base to assure identical alignment each time the device is used.

The shutter upright (Fig. 4) is of the same height as the film standard. An oblong aperture was cut in it with a scroll saw just opposite the projector lens and large enough to permit unobstructed passage of the projected image.

Heavy cardboard served as the material for the shutter and means to hold it in place. The shutter was cut amply wide to cover the hole in the upright and a slot was cut in its center with a razor blade to permit the registration of the image on the film when pushed across the upright opening.

Two layers of cardboard—the upper

one overlapping the shutter—served to hold it in place at the top while a similar arrangement held it in place at the bottom. The oblong drawn in ink on the left surface of the shutter served merely as a framing guide as each new scene was inserted in the projector gate.

Excluding Stray Light

To eliminate chance reflections from sources near the passage of light from the projector I covered the opening in the forward upright with India ink as well as the adjacent area to the slot in the shutter and within the film holding frame.

Strips of cardboard were tacked on to the carrier and about the rear upright to exclude stray light emanating from the lamp housing. To prevent possibility of light from this source fogging my negative during projection I made a tube from cardboard which could be

(Continued on Page 45)

Left, Hula girls interpret native legends in Honolulu. Right, Every Chinese appears to be a burden bearer in Shanghai. Raised from 8mm. film by writer.



INSTANT ACCEPTANCE

NEVER before have new negative materials been as enthusiastically received...as quickly put to use...as Eastman's three latest motion picture films. Fast, fine-grained *Plus-X*, for general studio work...high-speed *Super-XX*, for all difficult exposures...ultra-fine-grained *Background-X*, for backgrounds and all-round exterior work...Typically *Eastman* in uniformity and photographic quality, these films have won instant acceptance in the industry. Eastman Kodak Co., Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN *Plus-X*...
Super-XX*...*Background-X



SEVERAL factors contribute to making this picture of Warner Brothers' ace cameramen an unusual photograph: Among these are the fact that in these ten new Studio Model Mitchell cameras rides one hundred thousand dollars worth of equipment, what is believed to be

the most modern aggregation of cameras in the world; that it is a rare occasion indeed when eleven directors of photography can be assembled in any one group in any studio—there are bound to be too many tied up either on a stage or away on location. Even this notable group is not quite



a complete roster of the studio contract list. But here are those who are present: Front row, left to right: E. B. McGreal, camera and still department head; Charles Rosher, A.S.C.; Ted McCord, A.S.C.; Arthur Edeson, A.S.C.; James Wong Howe, A.S.C.; Sol Polito, A.S.C.; Bun Has-

kin, A.S.C., special effects department head. Rear row, left to right, Sid Hickox, A.S.C.; Warren Lynch, A.S.C.; Arthur Todd, A.S.C.; Lou O'Connell, A.S.C.; Ernie Haller, A.S.C.

The excellent photograph was the work of Clifton L. King.



The Garden setting: featured players Frank Biggs and Betty Warner are shown with Cliff West, Joan Biggs and Winifred Collins. This setting, with its genuine water pond and fountain, was constructed in the studio. Fore-ground miniatures were used.



At work on a shot on the Cottage Bedroom setting. J. Matthews (camera), Ben Carleton (Director) standing at rear. M. Fowler (Settings) seated on dolly and featured players Frank Biggs and Betty Warner. The tripod and dolly shown were specially constructed to the design of Ace Movies Cameraman J. Matthews.

ACE MOVIES OF ENGLAND MAKING "THE MIRACLE"

WE HAVE received from S. J. Matthews, honorary secretary of Ace Movies of Wimbledon, England, an amateur organization founded in 1929, the accompanying stills which show the cast and crew at work on "The Miracle." Mr. Matthews remarks in passing that the members of the club are looking forward with much interest to seeing Hollywood's professional version of "The Miracle," featuring Bette Davis, when that subject is released in England.

Unquestionably there will be marked interest among ama-

teurs everywhere in the tripod and dolly specially constructed to the design of the club's cameraman, J. Matthews.

There also will be abundant interest in the sets and lighting equipment, in the manifest preparedness that attends and precedes the actual shooting, and in the general motion picture atmosphere that surrounds the players.

We feel entirely safe in prophesying a finished picture that will be good to look upon—and one that will be a credit to the more advanced in the craftsmanship of motion picture making.

Featured player, Betty Warner, on the Dining Room set.

At work building the Dining Room setting: J. Matthews (camera) Ben Carleton (Director) and J. Swain are shown. The air compressor in the foreground is for spray painting.

Featured player, Frank Biggs, on the Cottage Bedroom set.



CINÉ-KODAK SUPER-XX

Eastman's New and Fastest Home Movie Film



IF yours is a 16 mm. camera, this new Eastman super-speed film will more than double your picture-making range. Over four times as fast as regular Ciné-Kodak "Pan" . . . more than twice as fast as Ciné-Kodak Super Sensitive Pan, Ciné-Kodak Super-XX makes an *f*.3.5 lens the equivalent of an *f*.1.9 with regular "Pan." And, with

an *f*.1.9 lens and Super-XX, you can make movies that have not, until now, been possible.

For example, with an *f*.1.9 lens, you can make good close-ups indoors with two regular 50-watt light bulbs $2\frac{1}{2}$ feet from the subject—one bulb, if in a reflector. Three 50-watt bulbs in reflectors supply sufficient illumination at *f*.3.5. With Kodaflector, two No. 1 Mazda Photofloods 14 feet from the subject provide ample light for filming at *f*.3.5.



The subjects shown above are typical of the scenes now easy to film—with the extreme speed of Ciné-Kodak Super-XX.

When Lighting Is Not Controlled

The extreme speed of Ciné-Kodak Super-XX is even more valuable when you have no control over the illumination. You can shoot indoor wrestling matches, hockey games, skating exhibitions, basketball games, stage shows—some with telephotos or in slow motion. Outdoors, you can make movies much earlier and later in the day . . . on dark winter days . . . on cloudy and rainy days. If the sun is bright, however, a neutral density filter (N.D.2) is needed over the lens to prevent extreme overexposure. This filter, with a factor of 4x, reduces Super-XX to the equivalent of regular "Pan" and the exposure guide on the front of each Ciné-Kodak can be followed.

Load your camera with Ciné-Kodak Super-XX and make movies that you have never been able to get before. It costs the same as "SS Pan"—full exposure instructions are packed with the film. Prices: 50-foot rolls, \$4; 100-foot rolls, \$7.50; 50-foot magazines and packettes, \$4.25. Prices include processing.

FOR INDOOR MOVIES IN COLOR

Use Ciné-Kodak Kodachrome, Type A. It is remarkably fast and you can get wonderful results easily with Kodaflector, Eastman's \$5 featherweight lighting unit. Type A Kodachrome is expressly color-balanced to give true color reproduction when used with Photoflood light—can be used outdoors in the daytime with Type A Kodachrome Filter for Daylight. Prices: for Ciné-Kodak Eight, \$3.75; for 16 mm. cameras, 50-foot rolls, \$4.75; 50-foot magazines and packettes, \$5; 100-foot rolls, \$9—including processing.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.



Frosty Filming

(Continued from Page 14)

The snowshoer, walking in and out of scenes, provides a thread on which to hang continuity. Occasionally, he may pause to rest and look out over the surrounding hills. From such close-ups, jump to long shots of other winter scenes you may have collected, returning to the snowshoer once more as he hits the trail.

For a rustic main title introducing such a film, lay out jigsawed block letters on a pair of snowshoes, or tack the letters on a log background. The use of kodachrome instead of monochrome film will add immeasurably to the beauty of such scenes.

If your locality permits ice angling, you will find that this winter sport will present more camera fun than all of your brook trout or musky fishing excursions. You might open such a film with close-ups of chips flying as the chisel bites the ice.

Comes the first gurgle of lake water, and finally the hole is skimmed clean. To reveal an extreme closeup of hooking on a lively minnow, mount the camera on the cine titler, and shoot with the title card holder flush against the scene. The auxiliary lens of the titler furnishes many startling closeups. In fact, some amateurs use the titler more for this purpose than for titling itself.

Provides Good Material

You will want close-ups of some of the odd-shaped, homemade fishing sticks and other unusual angling paraphernalia carried by these "frozen fishermen."

To carry on the continuity, film fishermen walking out on the ice, hopeful and anxious, while others, leaving, look down-trodden and sad, but still hoping that new waters will produce better luck. The winter angler provides excellent material for a cine character study, the sort of thing which few amateurs have ever attempted.

The rabbit hunt and the deer chase rank high among action footage grab-

bers, while filming the snow tracks of small game and bird life is also a pleasant diversion from the usual run of winter shooting. A heavy filter and a low hanging sun to shadow the depressions are most essential for properly recording wildlife footprints.

If you really want to match wits with animal cunning, follow a fur trapper with your camera as he sets out on his line. Incidentally, a winter trapping film in 8mm. or 16mm., showing methods of taking mink, muskrat, skunk or otter, would be both educational and entertaining. How many amateur cinematographers of your acquaintance have ever attempted such a thing?

Cold weather filming calls for even greater care of camera equipment than in summer months.

Beware of Temperatures

Don't subject film or camera to extreme temperatures. Keep your camera in a fairly warm place. If you leave it outdoors for any length of time, even overnight, chances are that its operation will be impaired by the chilling it receives.

If a cold camera is brought into a heated room, it will frost and "perspire," and no filming should be attempted until the motor is running normally and the foggy lens has cleared.

If you carry your camera without benefit of case, tuck it under your warm jacket when not in use, and cup the palm of your hand over the lens to keep out the snow during the flurries.

Outdoor snow movies at night take on added charm when lighted with photoflood or flare. To prevent flare light from hitting the lens, use a half-moon-shaped reflector on a last year's tripod, or place the flare itself behind and to one side of the camera stand.

For striking silhouettes, place your skiing subjects at night on the crest of a snow-topped hill. Take a camera posi-

Left, Footprints of wild animals or birds in snow furnish excellent movie studies. Right, Follow up your outdoor sports action with indoor cabin shots under photoflood illumination.

tion half way down the slope on one side. On the other slope, hidden from the camera lens, strike off a flare. The backlighted figures in motion will probably become one of your most treasured sequences.

If you lean toward artistic lines, try backlighted shots of snow crystals on window panes or weird shadows on the snow at night. Branches frosted with fresh snow or heavy with frozen sleet, as well as oddly formed icicles, make excellent subjects silhouetted against a well-filtered sky.

Bureau of Mines Produces Four Educational Pictures

The story of the production of copper, one of the most widely-used metals, is interestingly revealed in four new educational motion picture films made under the supervision of the Bureau of Mines, Department of the Interior, in cooperation with one of the larger mining companies. The methods and processes employed in the mining, leaching and concentration of the ores and in smelting and refining operations are depicted.

The films, of the silent type, are the latest additions to the film library of the Bureau of Mines, which is the largest of its kind in the world. "Copper Mining in Arizona" is the title of a film of three reels.

Copies of these films, in 16mm. and 35mm. sizes, are available for exhibition by schools, churches, colleges, civic and business organizations and others interested. Applications for the films should be addressed to the Bureau of Mines Experiment Station, 4800 Forbes Street, Pittsburgh, Pa., and should state the width of film desired. No charge is made for the use of the film, although the exhibitor is expected to pay transportation charges.



SHERLOCK WINS TWO IN A ROW

Captain Phillip arrives to claim the land for England

FOR the second time in a row James A. Sherlock entered a film in the contest of the American Cinematographer. And for the second time in a row he won the grand prize with "Nation Builders." In each case the theme was his home, in the first place, that for 1937 in Sydney the city and in the present one Australia the nation.

Last year the subject was "The Ships of Sydney." In it the producer showed all manner of craft, from small sailing yachts to great liners. He began in the morning, before daylight, to do his filming. And when the sun finally started on its way into the sky it was through a heavy fog. Not to be outdone by a subdued Sol, he photographed the fog, showed it as it nearly hid the sun, and as the sun broke through, and as a result secured one of the most effective scenes in the subject.

Three thousand feet were exposed in the 1938 film, but the final cutting was in 900 feet.

The picture last year was in Kodachrome, where this year's was in black and white. "Nation's Builders" was to the man who produced it and to the men and women who helped to make it more than just another picture. To him

and to them it was a labor of love. It was more than that. It was a labor of patriotism, for behind the men who made it was always the dominating thought of that for the first time in history their continent contained one nation, one people, one destiny.

That their fellow-citizens in Sydney saw the picture in the same spirit is indicated by the action of the members of the Royal Historical Australian Society and the Ship Lovers' Society at a showing of the film at Science Hall on the evening before its shipment to Los Angeles for the contest.

Government Should Take It

"This film should be acquired by the Government," declared Doctor Mackarness, when moving a vote of thanks to Mr. Sherlock. "It should be shown in all our schools."

The Royal Historical Society bestowed its blessing on the film and promised the producer it would forward him a letter to that effect, a copy of which will be attached to the film.

The following is from a letter to the editor written by the producer explaining some of the steps in filming the production:

At the beginning of 1938 the Australian Nation celebrated its 150th birthday with decorations, processions, reviews, fireworks and their glamour and tinsel. The newspapers devoted much space to the history of Australia and brought home the realization that this continent of ours now contains one Nation and one People, this happening in 150 years.

What a subject to film for an Australian cinematographer, especially if one is interested in history and could resist the temptation of filming the decorations, etc., previously mentioned!

"Nation Builders" is my effort to catch the breath of past pioneers.

It opens with surf rolling toward the camera. This was an early morning, back lighted shot with the sunlight silvered on the waves, but filtered with a 3N5 screen.

Captain Cook was the first Englishman to land in this country and emphasis is laid on the difference between civilization and the most primitive of people by showing the shoe marks of Cook and the bare foot marks of an aboriginal.

Very low afternoon lighting was essential here to get the texture of the sand. The abo is seen crouching, watching the landing party, and after the party pushes out to sea, the aboriginal is seen comparing his foot marks with those left by Captain Cook.

Darkey Wants Money

My first difficulty arrived filming this opening. It was made on a lonely beach about a mile away from the actual spot where Cook landed, and the darkey refused to take his trousers off till I had to argue, coax and increase his fee by



Governor Phillip

two shillings. Such is civilization. Of all the characters this, and one other, are the only ones who received cash for helping me.

The landing of Phillip and the founding of the colony was filmed from a pageant during the celebrations. This is an elaborate scene and was shot from a stand erected for two newsreel cameras. By a great favor my Filmo was allowed to record this historic, re-enacted scene.

The stand was about 20 feet high and looked down on the set at an angle from which no onlookers could be seen, and by using my turret head camera and three different lenses a few close-ups were possible.

Great hardships were suffered by our first settlers. This is shown by a title "Travail" fading in at the base of three ti-trees and more breakers, this time in a turbulent mood. The first successful farming was done by one James Ruse. A replica of his plough was copied from one in our Museum.

A hole dug in the ground permitted a few intimate close-ups as the horse, ploughman and plough came near the camera. For this and several later scenes I am indebted to the farm manager of the Hawkesbury Agricultural College and his pupils. The farmer and most other characters were chosen because they were types.

Instruments Authentic

The letter written by Governor Phillip was copied from the original. "Governor Macquarie—Road Builder" . . . This sequence was filmed in two parts. The first shows an early surveyor, a convict and the Governor. An old theodolite, dated 1810, was borrowed; Governor Macquarie enters the scene, talks to the surveyor, who points to the road builders.

The second part is cut in here. A

road was being built and it was not difficult to borrow a few tools and put some of my friends to work in the foreground as I used close-ups of them.

The bridge building scene is one where an old bridge was being demolished. The ganger allowed his men to spend a quarter of an hour remaking the half-destroyed bridge for me.

The first exploration party was filmed at a few spots on the actual path where the Blue mountains were crossed. The costumes used in this and throughout the picture are authentic. Even the convicts' costumes were studied and it was found that only a very small percentage were clothed in suits marked by broad arrows.

Aggy College Men

The map used in the film was of black felt cut after the manner of a jig-saw and placed over a relief map. Thanks to the rich blackness of 16mm. panchromatic film the joints are not seen. The scrolls showing the explorers' names were made in two pieces, one part painted on the base and, at each alteration of name, a new piece was placed in position.

The cavalcade of sheep men was filmed with the help of the students of the Hawkesbury Agricultural College and their very good manager. Covered wagons were the exceptions to the rule here in Australia.

William Charles Wentworth's garden party was part of our 150th Celebrations. This was filmed from a high elevation to again exclude onlookers.

The great war period was difficult to portray. This is shown by close-ups of actual newspapers printed at this period. A G filter was used to lighten the aged paper and I was fortunate in getting permission to film this in the studio of the Sydney Sun office. Twenty-five thousand candle power of light was employed, which allowed me to use a heavy filter and close the lens down to F.8.

The return of our nation to peace is shown by the building of a dam and the interior of a steel works. A detailed sheep shearing sequence has been added and the film finishes on aspects of City Life.

Kodak Panchromatic film was used throughout, as Kodachrome is not al-



Governor Macquarie

ways even in colour values and retakes were impossible in most cases. Great assistance was given by various members of the Australian Amateur Cine Society.

The stills inclosed are from the graflex camera of Eric Merton, a member of our Cine Society.

Durst in Hollywood

Recognizing the importance of the program which is being sponsored by the studios in connection with the general improvement of sound reproduction and picture projection, the International Projector has assigned Jack Durst as its factory representative in Hollywood. Durst has been identified directly with the development of the new Simplex Four-Star Sound Equipment.

Durst will cooperate with the various Academy Technical Committees with the interest of carrying through to equipment design those features and facilities which insure better presentation of sound and pictures in the theatre.



Hargraves, Lister and Tom discover gold



Surveyor in period of Governor Macquarie

Telco Begins Production

By IRA B. HOKE

AS DRAMATIC in its inception and as replete with thrilling incidents in its growth from a dream to a reality as any movie script is the story of Telco, newest of Hollywood's small family of natural color producing laboratories.

From Hollywood to New York, then to Florida, and finally to Hollywood again, the scenes of Telco progress were rapidly shifted under the master hand of Robert Hoyt, former Massachusetts Institute of Technology student and later a Hollywood picture producer, until today they present not only a drama of business achievement, but the company's first processing of a feature length story in natural color as well.

Robert Hoyt, who needs no introduction to Hollywood, where he has been known as a moving picture producer and technician for years, heads Telco as president and general manager.

Dr. Albert Fiedler is in charge of the laboratory staff. He is an old friend of Hoyt's and laboratory supervisor on many Hoyt productions. He is a graduate of Columbia University school of chemistry and received his doctor's degree at the University of Berlin. His entire career has been centered upon motion picture raw stock and laboratory work.

All other members of Hoyt's staff of film technicians and office executives have been chosen for their particular fitness and adaptability to the positions they hold.

The Process

Telco derives its name from a contraction of two words, telescopic color, which aptly describes the remarkable results now on the screen under that trademark. Telescopic, or may we say stereoscopic, to a surprising degree are the scenes of Telco's feature picture, "Lure of the Wasteland."

Because of an absolutely fringeless,

sharp focus, from foreground to background, the many color tones of this process give the observer the maximum of perspective and illusion of reality.

While technically Telco is a two-color process, using any standard bipack negative stock, the printing process shows not only an astonishing range of color tones but definite blacks and whites as well.

Compact Laboratory

Telco prints on standard double coated positive using a specially designed printer. The processing is done completely by mechanically controlled methods, and it is its claim, therefore, that no variation from one print to another is possible.

The laboratory at 1257 North La Brea avenue is remarkable for its compactness. Capable of printing and process-

ing from 15 to 20 thousand feet a day, it owes its small size to a principle quite different from accepted methods.

Each step of the developing and dyeing process is carried on in thermal and mechanically controlled individual tanks, communicating with one another to form a continuous ribbon of film from the printer to the winding reels at the dryer door.

These machines are insulated and sealed from the workroom and carry within themselves individual temperature controls which, according to Telco technicians, insures exact and efficient operation within a comparatively small area of floor space.

The machinery and processing tanks to the minutest detail were built by the present laboratory staff.

Use Standard Cameras

Any standard 35mm. camera adjusted for bipack may be used to make negative for Telco. Lighting of any type that gives a brilliant, well balanced double negative furnishes this process the required nucleus for its prints.

Make-up of actors may be of any accepted panchromatic type, and judging from results now on the screen well balanced flesh tones are assured.

First Picture Snappy

The company has just completed prints for a feature length musical western under the banner of Al Lane Pictures Inc., which demonstrates the efficiency of their process and fidelity of their color.

Starring Grant Withers, directed by Harry Fraser, this picture is commendable not only for its excellent color



Black and white still from "Lure of the Wasteland," the first color production by Telco. The scene of this natural bridge is the Kanab bluffs in Utah.

rendition and almost stereoscopic separation, but also for its fast action, catchy plot and beautiful scenery.

The exteriors were photographed in the red bluffs of Kanab, Utah, a territory rich in western legend and well adapted to color reproduction.

Faithful sound recording is doubtless due to Telco's method of printing a black and white track of definitely good quality.

The camera crew—Francis Corby, A.S.C., supervisor of photography; James Palmer, camera operator, and Lester Shore, assistant—is responsible for a well photographed production, although

at times they were forced to work under trying conditions. For instance, the Kanab bluffs became so cold during the filming of exteriors that the camera had to be heated continually to keep the oil from congealing and so stopping the mechanism.

Laboratory a Beginning

The present laboratory, while a producing unit, is designed to meet immediate production demands only. Detailed plans have already been drawn for a complete processing plant capable of many times the daily footage now possible.

General Manager Hoyt believes this new laboratory will be completed none too soon to care for the increased demand for natural color pictures that is undoubtedly growing far faster than the average observer believes.

He says the 10 to 20 per cent increase in price of Telco prints over ordinary black and white will be considered as trifling when compared to the manifold box office values of color.

Although no definite location for the new plant has been selected, Telco executives intend to establish themselves in the San Fernando valley within easy access of the major studios.

GORDON HEAD COMPLETES ACTION PORTRAIT CAMERA

AN amazing new photographic instrument, called by its designer the "action portrait camera," was introduced to Hollywood in December. The new camera, which embraces some revolutionary principles, is the creation of Gordon Head, Paramount still photographer, who used it for the first time on "Cafe Society," shooting pictures of Madeleine Carroll on a speeding aquaplane.

Speed is the great advantage of the new camera—not only mere shutter speed, but speed in posing pictures and arranging composition.

The flowing black cloth, familiar to everyone who has ever had his portrait taken, is abolished by a completely new type of finder. That is more significant

than the layman may imagine. Here's the procedure with the ordinary portrait camera—

The photographer stops down his lens, sets his shutter. Then he must line up the people in the positions in which they are to be photographed, ducking repeatedly under his black cloth and out again, meanwhile adjusting his camera to the proper range.

Procedure Simplified

While the subjects remain absolutely still, the cameraman then has to insert his plate in the camera and pull out the slide before taking the picture. If anybody in the group moves, or the camera is joggled ever so little, the picture will come out blurred by movement or out of focus.

With the Head "action portrait camera" this procedure is simplified to this—

All adjustments to lens and shutter are made, and the plate is inserted and the slide removed. Peering through his special finder, Photographer Head poses his subjects, simultaneously adjusting for range—and the moment the people are lined up as he wants them, Head snaps his picture.

The patented finder is the secret. It enables Head to see just what he is going to get on the plate while the plate is in position for immediate exposure. Too, it gives a more accurate image, because the cameraman looks right through the lens, instead of through a series of prisms, thus eliminating the possibility of distortion.

With this new camera, which takes a plate 8 inches by 10 inches, it is possible for the first time to take action pictures of such size with the same convenience as a candid camera affords, yet obtaining the same high quality negative as a portrait.

8 by 10 at 1/2000

When Head shot stills of Madeleine Carroll on an aquaplane being towed by a speedboat at 45 miles an hour, he used the fastest shutter on any camera in existence, excepting only those precision instruments in use in scientific laboratories. It is an airplane mapping camera lens, and the variable opening focal plane shutter has a speed of 1/2000 of a second.

Mounted on a tripod, the "action portrait camera" can be "panned" just like a movie camera, enabling the photographer to follow rapidly moving objects.

With the camera case built of durable but light airplane metal, the new instrument has the additional advantage that it weighs only a fraction of the poundage found in other 8 by 10 cameras and can be carried or moved about with ease.

Into the construction of this marvel Head has put \$5000, eighteen months of actual work and ten years of thought. Hollywood camera experts say it was worth it.



Gordon Head, at right, with 8 by 10 speed camera he has perfected across the last ten years. Charles Lang, A.S.C., at left, looks interestedly at the mechanism.

Art Reeves Offers First Independent Rerecorder

RERECORDING or "dubbing" has long been a salient part of Hollywood's studio sound technique, but to the many theatrical and commercial producers elsewhere who depend upon independently made sound apparatus it has been a problem, since no independent rerecording equipment has been available.

Therefore, the announcement of what is believed to be the first independently made complete rerecording outfit is of considerable importance.

The new rerecorder is a product of the Art Reeves Motion Picture Equipment Company of Hollywood, and is designed to coordinate either with that firm's recording system or with any the user may own. The unit comprises a distributor set to power the necessary interlocking motors driving projectors, rerecorders and recorder; three rerecorders or film phonographs; an AC power panel; a main amplifier with extended mixing panel and extended volume indicator; and interlocking motors to power two projectors, one recorder and three rerecorders.

In operation the synchronous driving motor of the distributor is connected to any convenient AC power source. This motor in turn drives the distributor, which supplies three-phase alternating current to excite the rotors of the motors driving the rerecording equipment.

Electrically Interlocked

The fields are electrically interlocked, as are the various rotors, so that, when the distributor rotor turns, the rotors of all motors revolve synchronously.

The rerecording heads or film phonographs are constructed entirely in the Reeves plant, and are fitted with an adjustable damping mechanism to assure uniform film travel. The exciter lamp slides in and out on a demountable plastic base, and is so constructed that sliding the unit into place automatically establishes the correct electrical connections.

For changing or removing lamps no wires need be connected or disconnected. The photocell pick-up is completely inclosed so that no door is necessary over the film-movement head to make threading and inspection difficult. The film used may be run between reels in inclosed magazines, or a supplementary

fitting used to permit the use of a loop for background sound effects.

For driving this unit a standard slip-on motor mount is fitted, so that either the synchronous motor regularly supplied may be used or any standard camera motor fitted.

The opposite end of this shaft is extended beyond the housing so that a line of the machines may be connected to a single power supply to operate as a multiple battery, or any special motor may be fitted. The device may be used on the set for playback and pre-scoring uses.

The amplifying system is powered by

an AC power panel which supplies current to all units except the driving motors, which are powered by the distributor, and the exciter lamps of the sound heads, which must be powered by direct current.

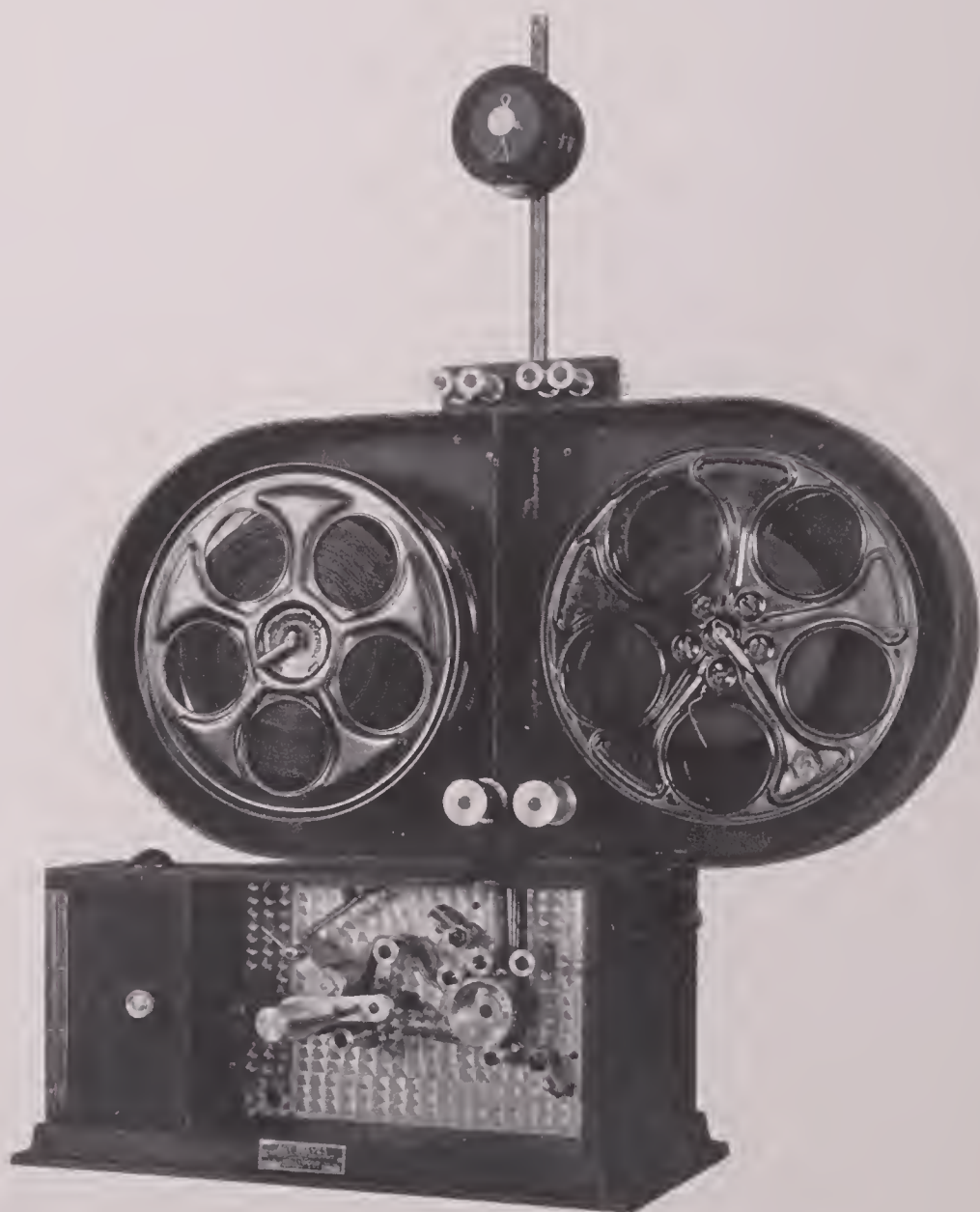
Own Monitoring System

The main amplifier is of the usual Reeves high-fidelity type, and fitted with its own monitoring system.

The extended mixing panel includes a four-position mixer. Two of these positions are fitted with pre-amplifiers so that they may be used for direct recording with dynamic microphones. All four positions may be used with projector pick-ups, rerecorders, and the like.

All positions have complete equalization, both up and down. There are two master volume controls, and the volume indicator is of the extended type, which may be placed at a distance from the control panel, as may be desirable.

Both this unit and the extended mixing panel are planned so that in rerecording the operator will have only the minimum of eye movement between following the picture on the screen and watching his mixing dials and indicators.



FIVE years ago, through a combination of circumstances he is not even yet quite satisfied to concede he is altogether responsible for, Armin Fried of the Fried Camera Company of 6156 Santa Monica Boulevard, Hollywood, found himself in the position of the man in the song, "all dressed up and no place to go."

For twenty-three years he had been going places, right in Hollywood. In fact, quite well already he knew his way around. Because since leaving Czecho-Slovakia he had made it a point primarily to acquire information—about several things.

Two of those stood out. One was the English language and the other was mechanical engineering. He admits it would have been simpler had he been able to take two bites on that cherry rather than take it at just one.

But let it be said in the beginning Armin Fried acquired his English. And when he had whipped a simple vocabulary, had secured one on which a majority of men are quite content to rest their laurels and incidentally their conversation, he dug in more deeply, into the supplementary or complementary division. And when occasion arises these supplementary words ride at the tip of his tongue.

But we were speaking of five years ago. He had just resigned from his job at the head of the motion picture tech-

nical department in the Fox Studio. There he had done many things, as his title implied. But repairing and keeping in up-to-the-minute order all the cameras on the lot was second in importance to no other job that fell to him.

To Go Into Business

His bent being on the side of creating, from the ground up, rather than re-creating or repairing someone else's equipment, he decided to go into busi-

ness for himself and see what would happen.

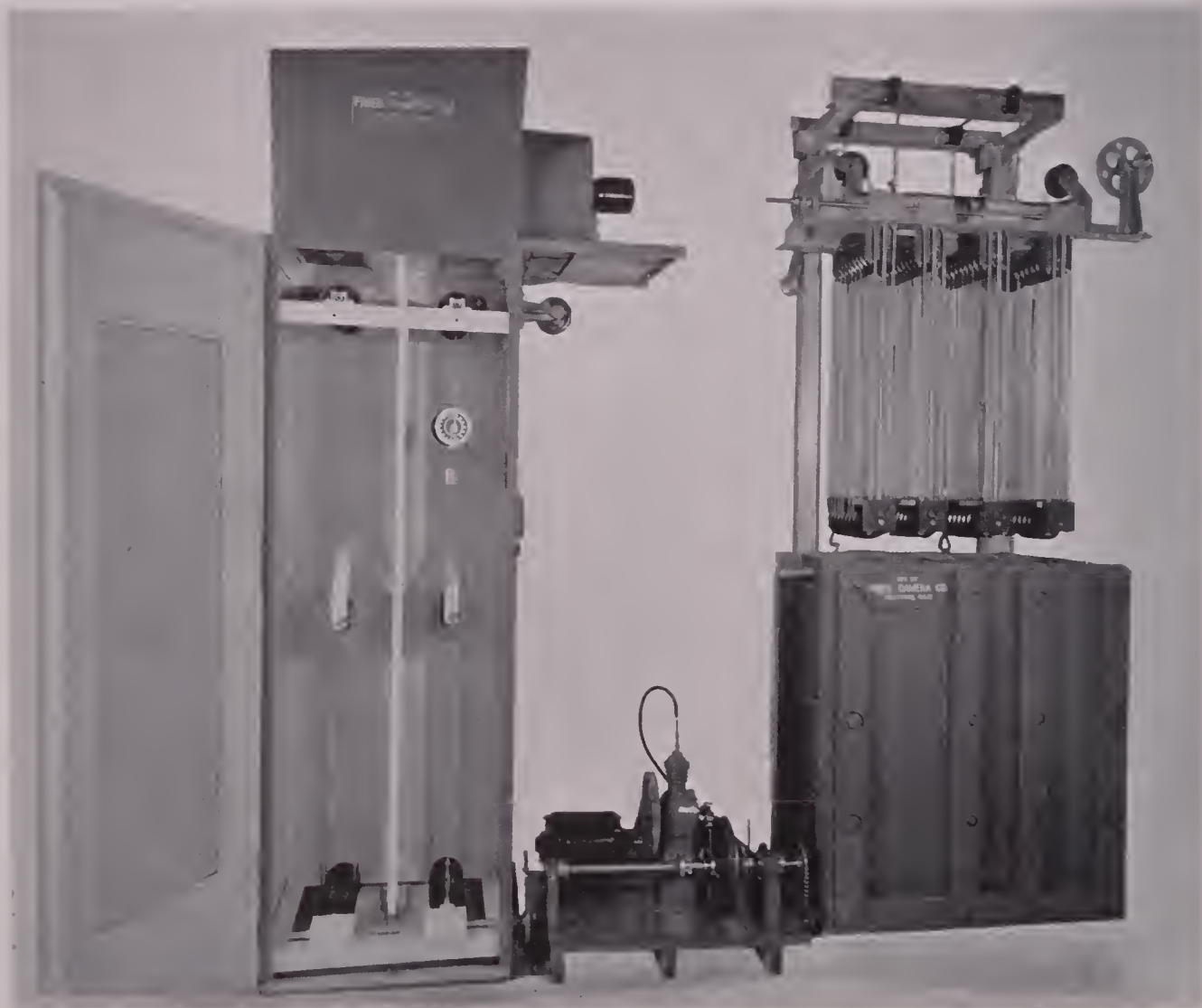
Quite a lot has happened in the five years. The Fried Company now announces itself as "Manufacturers of complete 35mm. and 16mm. Laboratory and Photographic Equipment."

Making good on that statement is the following list of standard designed and equipped machines: Continuous contact printers, registration step printers, bi-

(Continued on Page 36)

BUILDING BUSINESS IN FIVE YEARS

*Combination
35mm. and
16mm.
Fried developing
machine,
showing
apparatus in
elevated
position.*



Engineers Name E. Allan Williford as 1939 President



*E. Allan Williford
New President
SMPE 1939*

THE Society of Motion Picture Engineers at its recent semi-annual convention in Detroit named E. Allan Williford president for 1939. The new chief for eighteen years has been with the National Carbon Company. At present he is manager of the Carbon sales division.

Other officers elected are Nathan Levinson, executive vice president; Arthur S. Dickinson, financial vice president; John I. Crabtree, editorial vice president, and William (Bill) C. Kunzmann, convention vice president.

J. Frank, Jr. and L. W. Davee were re-elected secretary and treasurer, respectively. Loyd A. Jones continues in office for another year as engineering vice president and R. E. Farnham, A. C. Hardy, and H. Griffin as governors.

The new executive vice president is recording director of Warner Brothers First National Studios in Hollywood, and has been very active in Hollywood technical affairs. He is vice president of the Academy of Motion Picture Arts and Sciences, chairman of the technicians branch, and vice chairman of the Research Council.

Loyd A. Jones, A.S.C., engineering vice president, is a well known expert

of the Eastman Kodak Company of Rochester, with which company he has been connected for the past twenty-six years, being chief physicist since 1916. He is a highly recognized expert on the subject of photography and sensitometry and has done much research work in physical optics, illumination, colorimetry, etc. He has to his credit many publications in scientific journals.

John I. Crabtree, re-elected editorial vice president, was president of the society in 1930-1931, and has served as editorial vice president for the past five years. Mr. Crabtree was awarded the Progress Medal of the French Photographic Society in 1924 and he has published many papers on the subjects of photography and sensitometry.

William (Bill) C. Kunzmann, convention vice president, has been associated with National Carbon Company at Cleveland for thirty years. He was graduated in technical engineering from Akron College and joined the National Carbon Company's research and sales department in 1907.

Washington Not Planning a Young Hollywood

Reports that the Department of Commerce is planning to establish a young Hollywood in Washington have no sub-

stantial foundation, we are assured by a man in the know in the capital city.

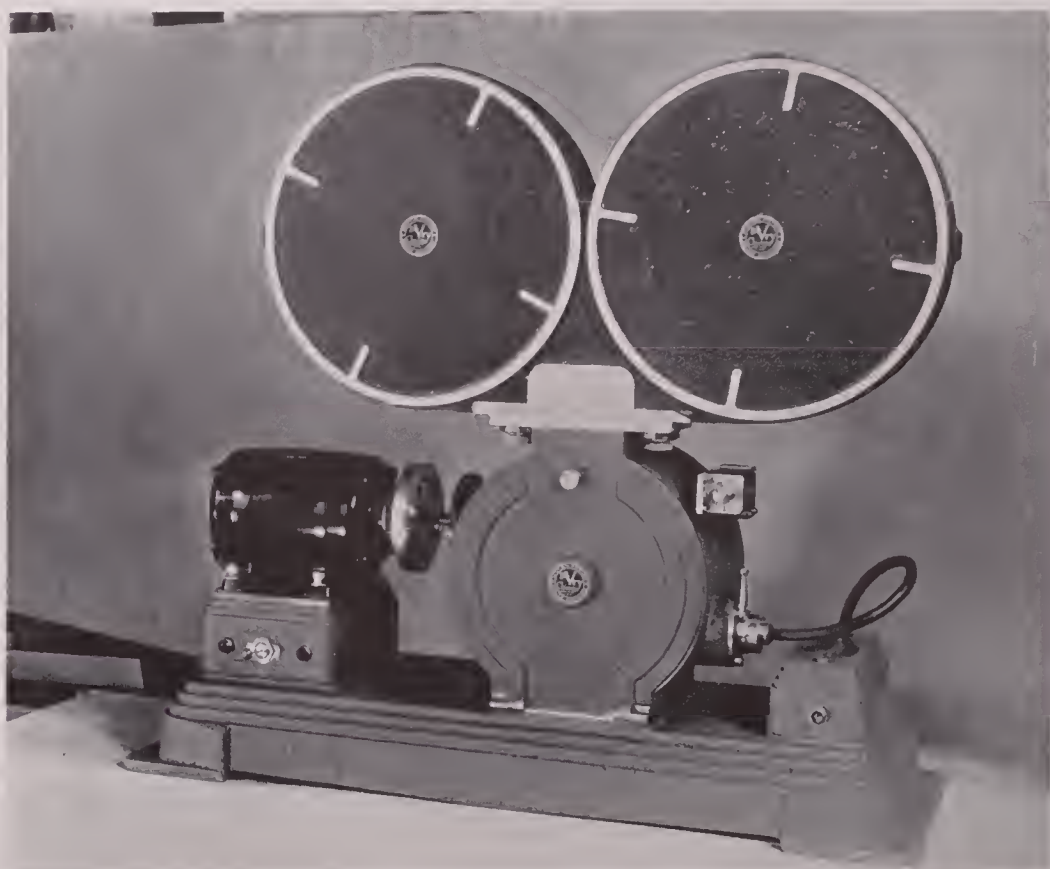
Frank Wilson, assistant to Secretary Roper, has explained that the department is merely seeking to function as a good-will or industrial promotional agency within the department. Up to this time the plan is in an embryonic stage.

Nathan Golden, chief of the motion picture division of the department, has assured the industry there is no thought of attempting to establish a producing unit or a distributing organization that will in any way interfere with Hollywood. The only way in which a government agency would aim to act would be in the establishment of a bureau designed to operate for the betterment of the business.

So far the plans are that the new organization is going to be set up within the department for the purpose of promoting industry through a coordinated motion picture program. It will act not as a sponsor but as a medium, an outlet, for industrial motion pictures.

For many years the Bureau of Mines, in the department of the Interior, has been participating in such a manner under the guidance of M. F. Leopold. Today the Bureau of Mines has a library of films that would interest Hollywood producers. However, all of the pictures are silent. The distribution of these industrial pictures is tremendous, their running life long and their effectiveness great.

Industry pays for the production of the pictures, which are supervised by officials of the Bureau of Mines to eliminate any obvious signs of direct advertising.



New DeVry 35mm. sound recorder of variable density type for use either in dubbing sound or to be used in connection with the DeVry 35mm. sound camera for double system recording.

Building Business in Five Years

(Continued from Page 34)

pack color printers, optical printers, developing machines and light testing machines.

The Fried continuous printers have been designed to fulfill every requirement in the quality and quantity production of positive prints. This is intended to apply to all printer work—the making of positive prints from negatives, both sound and picture—duplication of reversal films or positive prints—and the printing of 8mm. film from unsplit negative of 16mm. width.

Upon special order, Model DA or DB can be adapted exclusively for contact printing of 8mm. film of the narrow split width.

The developing machines are available in two types: (1) Combination 35mm. and 16mm. machine; (2) Accommodating 16mm. width films exclusively.

These machines are available in various capacities designed to maintain a uniformly high quality of output and satisfy the requirements of the commercial, industrial and studio laboratories. The smallest machine has a capacity of 600 feet an hour of positive film and the largest machine a capacity of several thousand feet an hour.

These models include simplified operation and control, complete versatility in all processing operations, compact construction with all features self-contained, ease of installation without any special provisions being made in the room, continuous development of any film length without cutting into shorter lengths and automatic operation and control.

Entirely Automatic

The machines are entirely automatic in operation. The film to be developed is placed upon a spindle at the loading end of the machine and attached to the threaded leader. Thereafter it is automatically carried through the successive stages of processing and through the drying chamber, from where it emerges completed. To the end of the last roll of film to be developed is attached the leader, so that when the machine is turned off it remains fully threaded.

These machines are completely motor driven. The operating units consist of: Processing tanks, etc.; motor drive unit and "air squeegee" compressor; controllable air conditioning unit and film drying chamber. The processing tank unit consists of a large developing compartment, a "stop" bath compartment, hypo or "fixing" compartments and large wash compartments.

This division of the chemical baths together with the use of air squeegees between the solution compartments assures the correct development with the least possibility of chemical depreciation due to "carry over" contamination. The squeegees direct a controlled downward slanting current of air against both sides of the film and thus retain the solution which would otherwise be

carried over into the next tank. This device is similarly employed to remove the surplus water from the film before it enters the drying chamber.

Varies Heat and Humidity

Built into the drying chamber is the most modern and effective air conditioning unit, embodying a replaceable air filter, electrical fireproof heating units, and circulating exhaust fan. With this unit the operator can vary the heat and humidity of the drying compartment to conform with the developing time of the film being processed.

The combination 35mm. and 16mm. models are designed for complete versatility in all processing requirements, and are capable of handling both film sizes—in positive and in negative, sound and picture. In these machines the ability to make an immediate change from one type of film to another is accomplished without any mechanical alteration or inconvenience to the operator.

Two developing tanks are employed, one of which is used for the positive developer and the other for the negative. Each of these tanks always remain individually threaded with a leader, and the positive and negative film to be processed are in turn clipped to the corresponding leader.

The combination models are also provided with reservoir tanks for each developing solution and with special circulating pumps creating a continuous agitation and circulation of developer. Built in electric heating units and automatic thermostatic and thermometer gage control permit any desired elevated temperature to be accurately maintained. Electrical refrigeration is not included, but can be furnished if desired.

In that same five years the Fried Company also has developed for the use of clients a technical engineering service in the design and construction of any special equipment pertaining to the motion picture industry.

B & H Announces Reductions

A Bell & Howell bulletin announces an appreciable reduction in almost all of the more commonly used projection lamps. The price changes, effective December 1, cover all voltage 300 watt, 400 watt, 500 watt and 750 watt lamps, and the new 1200 watt 100 volt lamps as well.

The lower prices are an invitation to

every Bell & Howell projector owner to carry a spare lamp in his projector case so that even in the event of an unexpected lamp burnout "the show can go on."

The same bulletin also announces 20 per cent price reductions on all Bell & Howell Photoflood lamps.

Save Money—Buy Your Film By Mail Hollywood 16mm. Outdoor

FILM minimum 2 rolls at this low price. Non-Halation, fine grain, ample latitude. Above price includes machine processing, spooling, mailing. California buyers include sales tax. **\$1.50** per 100 ft. plus 10c per roll handling charge.

HOLLYWOODLAND STUDIOS
9320 Calif. Ave. South Gate, Calif.

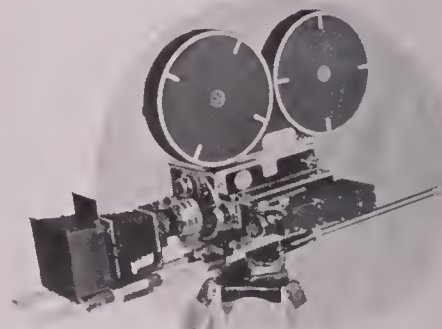
2 REASONS



For Good Photography and Sound

No. 1 The DeVry Model A 35mm. silent (newsreel type) camera shown above has produced many thousands of feet of motion pictures . . . is characterized by discriminating cameramen as the versatile camera. Widely used by leading cameramen, explorers and newsreel men, the "Model A" assures you accuracy, fineness of detail, even under most adverse conditions. Send for descriptive circular, and new, low prices.

No. 2 "Big Brother" of the Model A, the DeVry 35mm. sound camera, fully improved and modernized, has proved itself in the most exacting of tests. Fully illustrated 2-page folder gladly sent on request.



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Mfr's. of Complete Lines of 16mm. and 35mm. Cameras and Projectors

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New Type Ultra Silent Camera—
No Blimp Necessary

Has built-in motor, automatic dissolve, pilot pins and anti-buckling device. Four 1000-ft. magazines—40 mm. 50 mm. and 75 mm. F2.3 lenses, De Brie upright finder, set of front attachments. Leather covered carrying trunk. It's the latest type equipment . . . like new!

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Used in Every Major Studio
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In World-Wide Use

produce Moonlight and Night
Effects in Daytime-Fog Scenes-
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HOLLYWOOD
STUDIOS
USE THEM
IN EVERY
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ORIGINATOR OF EFFECT FILTERS
1927 WEST 78TH ST. LOS ANGELES, CAL.

ASTRO LENSES

F 1.8

F 2.3



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THE Ampro Corporation, 2839 North Western Avenue, Chicago, announce two radically new and improved low-priced 16mm. sound-on-film projectors, basically new in design, which will provide quality sound projection at prices well within reach of a moderate budget.

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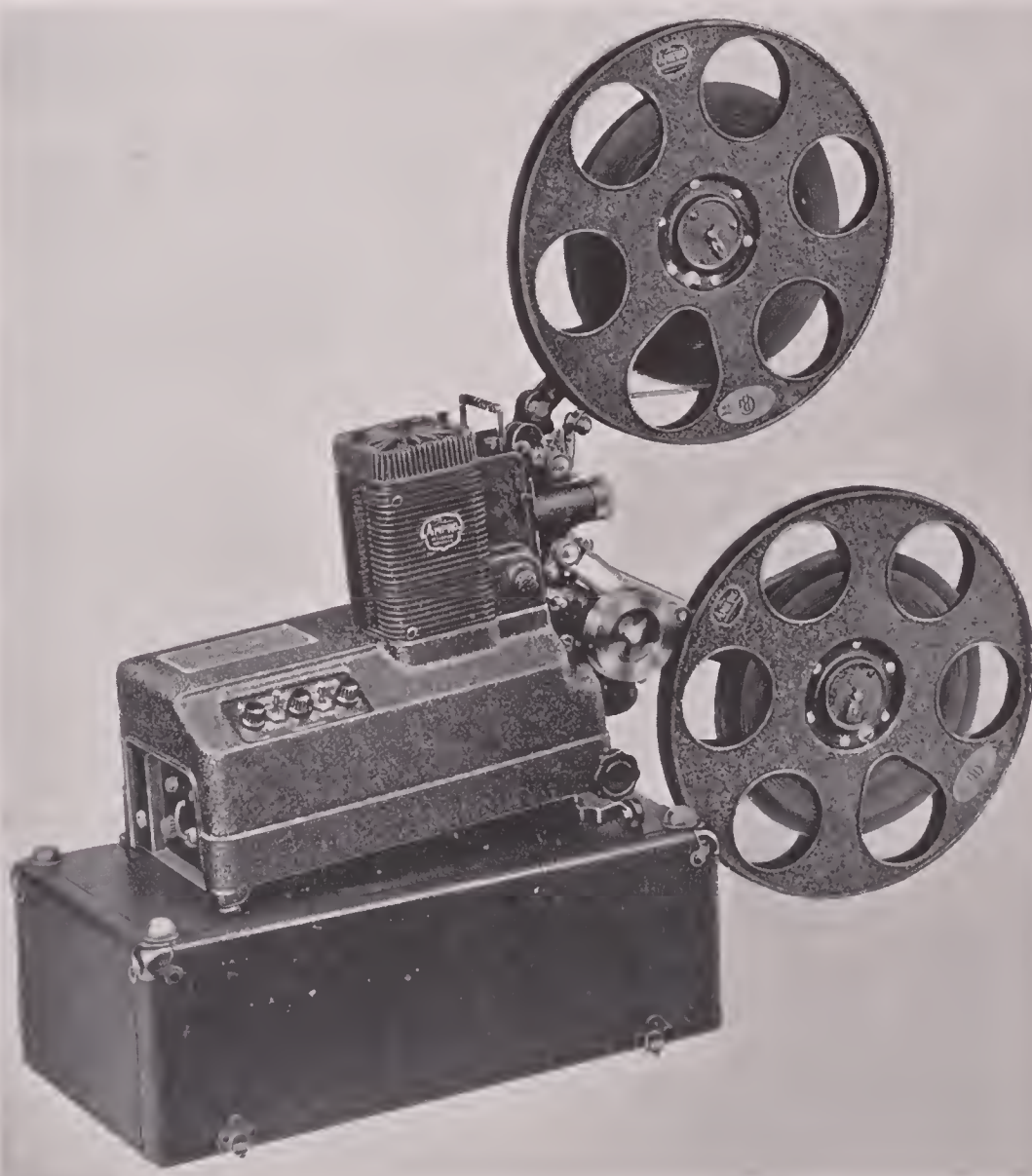
It weighs only 49 pounds, including 1600-foot reel, carrying case, accessories and cords. Operation is so quiet that

blimp case is unnecessary. All controls are centralized on a single illuminated panel. Reel arm brackets are permanently attached and swiveled into position with no parts to set up and fasten. By reason of simplified threading only a few minutes are needed for setting up.

Folding Reflector Stand

The new Lafayette Twin-Lite stand just introduced by Wholesale Radio Service Company, Inc., 100 Sixth Avenue, New York, provides an effective means for mounting lamp reflectors of the clamp-on type. Extended to full height the tubular steel stand elevates the lamps to more than 6 feet.

It telescopes to any intermediate length and when folded measures only 21 inches in overall length. The reflectors clamp on to a 20½-inch cross-arm and either one or two lamps may be used as desired. The weight of the stand is slightly over one pound.



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NOTES FROM THE MOVIE CLUBS

Los Angeles 8mm. Club

The annual banquet and contest was held at the Victor Hugo Cafe, Beverly Hills, on December 10, and was attended by well over one hundred members and guests.

After the dinner the retiring president, C. G. Cornell, introduced the club officers for 1939: Alexander Leitch, president; A. Vincent Hague, vice-president; Volney P. Burdick, secretary; Ed Pyle, treasurer. The new president stated there was only one plank in the platform for '39, and that was "a 50-foot reel to be exhibited by each member every month."

Door prizes consisting of one roll of panchromatic film each was won by Leon C. Sprague, Volney P. Burdick and James B. Ridge. This film is to be shot and then exhibited uncut at the February meeting.

Reports of the secretary and treasurer were read and the retiring officers' swan song was rendered by the outgoing quartet: C. G. Cornell, president; Jack H. Taylor, vice-president; Bion B. Vogel, secretary; and C. William Wade, Jr., treasurer.

William Stull, A.S.C., then gave the results of the annual contest as decided by judges from the American Society of Cinematographers. Their findings were as follows:

Robert Teorey's film, "The Golf Widow," captured first prize, a Thalammer Tripod and pan head donated by Peterson's Camera Exchange, together with a cup given by the club.

M. R. Armstrong's picture of "The Insomniac" won him second prize, a Bell & Howell titler donated by the J. W. Robinson Company.

"Vida Pacoima," by R. B. Clardy, won third prize, a \$25 merchandise order from Bell & Howell.

Fourth prize, a \$25 merchandise order donated by the Eastman Kodak Company, went to C. M. Drury for his picture "Tree Line."

Fifth prize, a Weston Junior meter given by the Victor Animatograph Company, was awarded to "Hawaiian Rev-erie," by Robert Teorey.

"Camino de Ayer" (Roads of Yesterday), by J. K. Northrop, won sixth prize, an "Editeer" donated by Seemans, Inc.

A. B. Callow won seventh prize, a \$10 merchandise order from Winter, Inc.

Eighth prize, a gadget bag donated by the Morgan Camera Shop, went to John Walter for his picture "Vacation by Proxy."

T. C. McMurray's picture "Aeropho-

bia" brought him ninth prize, a zoom titler donated by the Los Angeles Camera Exchange.

"California Beautiful," by Leon Sprague, was awarded tenth prize, a two-year subscription to the American Cinematographer, donated by that magazine.

Eleventh prize, a year's subscription to "Home Movies" and a copy of "Color Filters and How to Use Them," both donated by VerHalen Publications, was won by R. B. Clardy's film "It Always Rains on Sunday."

The Horton Vacation Trophy was then awarded to G. Loren Foote for his picture "High Sierras."

After a short intermission the pictures winning the first four prizes and the Horton Trophy winner were run, the meeting adjourning well after 12:00 o'clock.

VOLNEY P. BURDICK, Secretary

Minneapolis Cine Club

From the Cine Clubber, Rome A. Riebeth, Editor

SPECIAL INTEREST MEETINGS

Time: The first Tuesday in each month.

Place: Various members' homes (to be designated). Purpose: Revive the interesting in-between-meetings that featured activities last year and allow members with similar problems to meet for enlightenment. Subjects: Sound Accompaniment; Editing and Titling, and Lighting.

Carroll Davidson is taking the sound class on the first round and will hold the meetings at his home theatre. Ormal Sprungman will conduct a class in editing and titling, while Ralph Sprungman will hold meetings on lighting at Bill Everett's home, while Bill goes over to Ormal Sprungman's for editing. Some fun, eh fellows.

Registration for the various groups can be made at the meeting on December 20 when further details will be forthcoming. Classes will be limited to fifteen men each because of the limited facilities in the homes of the members. So get your registration in early.

Philadelphia Cinema Club

The Annual Dinner of the Philadelphia Cinema Club is scheduled for February 28 at McAllister's, where all our previous dinners have been held.

The musical part of the program for that evening has been arranged with the cooperation of the KYW Broadcasting

Station. In line with the club's policy of dedicating the activities of this year to the late Ripley W. Bugbee, his films and particularly the ones he took on the trip West just preceding his death will be the highlights of that evening's entertainment.

It is the desire of the club to have the cooperation of the cinema clubs and camera clubs in the vicinity of Philadelphia for this gala occasion.

Arrangements for tickets can be made through the office of Horace Wilson, secretary, or from any of the committee members.

The night promises to be one of action rather than of speaking, and no principal guest speaker is being provided.

Between entertainment of a high type, a musical program, a fine dinner, and Mr. Bugbee's films, it should be an occasion long to be remembered.

B. N. LEVENE,
Publications Committee Chairman

Metropolitan Cine Club

The Metropolitan Cine Club of St. Paul, Minn., youngest of St. Paul's movie clubs, in November, held its election of officers for the ensuing year. The following were elected: President, John A. Bordenave; vice president, Carl O. Olson; treasurer-secretary, Harold E. Piggott.

G. B. Peterson was appointed chairman of the general committee.

The club is made up entirely of hobbiests, and, while better moviemaking is the prime objective, sociability and good fellowship have not been neglected.

New Los Angeles Club

The new Photo Fellows Club has recently been organized at Woodbury College in Los Angeles. The object is to feature contests, special speakers, discussions and demonstrations on photography.

The new officers are: President, Don Franklin; secretary, Harry White; treasurer, Ed Lancaster, and sergeant-at-arms, Lillianne Flaten.

La Casa Movie Makers of Alhambra

Mr. Farneman of the Weston Meter Company gave an interesting talk on the use of the exposure meter manufactured by his company at the December meeting of La Casa Movie Makers of Alhambra, Calif.

The finals of the Finished Film contest were run off and the following members were chosen winners: First, "The Downfall of Daughter," an epic of the gay nineties; second, "The Tenderfoot," by Mr. Moore; a scenic film of Death Valley by Mr. Korns; third, "The Mugwumpus," a comic take-off on an African hunt by Mr. Oden.

As an extra event during January the club is scheduled to make a run to Santa Barbara by streamline train by the

Southern Pacific. Also arrangements have been made for an opportunity to make air shots of Southern California from plane by T. W. A.

R. A. BATTLES,
Publicity Chairman.

Agfa Lowers Cost of Fast Films

THE popularity which has been accorded the new high-speed Agfa films has made it possible to extend worthwhile savings to the consumer in the form of a number of important price reductions. These new lower prices, which were effective December 1, last, apply to the sizes noted below of Superpan Press roll film, Superpan and Superpan Press film packs, 35mm. Ultra-Speed Pan miniature-camera film and 35mm. Infra-Red miniature-camera film.

All Agfa panchromatic roll films, film packs and 35mm. miniature camera films now sell for the same amount in each size. The new prices are as follows:

Superpan Press Roll Films—A-8, 30 cents; B-2, 35 cents; PB-20, 35 cents; D-6, a new size, 40 cents; PD-16, 40 cents.

Superpan Film packs—F-18, 3¼x4¼ in., \$1.25; F-41, 9x12 cm., \$1.40; F-23, 4x5 in., \$1.50; F-15, 5x7 in., \$2.50.

Superpan Press Film packs—F-20, 6x9 cm., 75 cents; F-18, 3¼x4¼ in., \$1.25; F-41, 9x12 cm., \$1.40; F-23, 4x5 in., \$1.50.

35mm. Ultra-Speed Panchromatic Miniature-Camera Film—15-exposure darkroom loads, 35 cents; 36-exposure Leica cartridges, \$1; 36-exposure Contax spools, \$1; 27½ ft. notched rolls D.R.L., \$1.80; 55 ft. notched rolls D.R.L., \$3.50; 100 ft. unnotched rolls D.R.L., \$6.

35mm. Infra-Red Miniature - Camera Film—15-exposure darkroom loads, 40 cents; 36-exposure Leica cartridges, \$1.20; 36-exposure Contax spools, \$1.20; 27½ ft. notched rolls, D.R.L., \$2.15.

Parkers in South America

Harry and Harriette Parker, who left Los Angeles in October on a South American trip, postcard Christmas greetings from off the west coast of Chile and state they will be in Buenos Aires for Christmas dinner. The Parkers, who belong to the family of American Cinematographers, are taking their time en route and report they are shooting some good subjects. They are especially well equipped with photographic impedimenta, their outfit being planned as a result of experience gained in a world trip something less than two years ago. Mr. Parker is a member of the Los Angeles Cinema Club and Mrs. Parker is an officer in the Hollywood Women's Club.

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Documentary's Achievements Told by Schustack

The Documentary Film: History and Principles. By Edward H. Schustack. Publication No. 2 Film and Sprockets Society of City College of New York . . . Art Department. November, 1938.

HERE in a thirty-two-page pamphlet is packed a mass of facts and conclusions regarding the Documentary Film—something of which we have heard a little and of which we may be sure in the coming months and years we are to hear much. Although the booklet is copyrighted by Mr. Schustack perhaps we will be pardoned if we reprint the foreword he has written for it.

In a letter accompanying the pamphlet the author says "A most significant development in the modern film has been the rapid growth of the documentary film movement. The success of 'The River' last year was of nation-wide significance and helped put the word 'documentary' in the vocabulary of every one in the film industry.

"Yet to my knowledge practically nothing really definitive of the documentary film has been published in America. My pamphlet is fortunate in having the distinction of priority over all other writings in the field in America."

Has Few Peers

But coming back to that foreword:

"The part that the documentary film is to play in America's future is only beginning to be realized. As a means of exacting social analysis the documentary has few peers. It can examine, weigh, evaluate and correlate all the complexities of our modern America and present to the millions of moviegoers not only an understanding of American traditions and ideals but also the means to encourage a most active participation in all phases of civic affairs.

"America has in the past flourished on a frank discussion of our national problems and I am happy to think that the documentary film can, and has, to a very measurable degree helped not only to pose many of the questions that face America but also help to in-

dicade their solution.

"Documentary has gotten off to a good start in the United States through not only the wealth of precedent that it may draw upon but also through the efforts of an earnest and talented group of documentalists, many of whom are mentioned in the section devoted to our national documentary school.

"In the future we can expect not only an exceedingly high documentary film standard but also a volume of production sufficient to make it a moving force in the lives of millions of people.

Deals with Actualities

"The appearance of a little booklet such as this, the first written in this country and the second in the world, has not been unattended by much laborious research and film viewing. Some measure of credit for its appearance must go to Edward and Edna Anhalt for their critical reading of the manuscript and many helpful suggestions, and also Louis Biderman, Cyrus Harri-man and Vincent Buonamassa of the

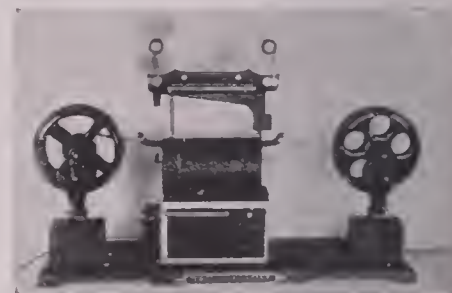
Film and Sprockets Society for aid in editing the manuscript."

Possibly we may be granted the further privilege of direct quotation in setting down the hundred-word "Introduction." Like its immediately preceding Foreword it is packed with interest:

"Within the rather broad confines of the definition of the documentary film there is ample room for the co-existence of such distant neighbors as 'Nanook of the North' and 'The River.' Primarily the documentary film deals with actualities—people who live and events that occur in the world about us.

"From Robert Flaherty to Pare Lorentz is quite a jump in method and motivation, which jump encompasses the history of the documentary film from its beginnings through to the form in which we know it today. Documentary history may be said to have its begin-

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nings in the world of Robert Flaherty." For those upon whose shoulders sometimes is thrown the responsibility of deciding just what is and what is not a documentary film, like the many men and women on magazines and in amateur clubs placed in charge of contests and forced to decide what is what, here are nineteen words of priceless advice:

"Primarily the documentary film deals with actualities—people who live and events that occur in the world about us."

A couple of pages are devoted to the record of Flaherty, who began in 1920 his work in the realm of the documentary film—when commissioned by Revillon Freres, Paris fur house, to ex-

plore part of the Hudson Bay on a commercial venture. On his own responsibility Flaherty took along a motion picture camera. In spite of the great difficulties encountered he brought back "Nanook of the North," with the native Eskimos as his actors.

It was the story, though, that gripped the picturegoing world. It was the story of an Eskimo tribe's quest for existence, its continuous battle against the hostile forces of nature. The picture was a financial success. But the viewpoint of Flaherty and the conception of life in primitive countries entertained by studio authorities did not agree.

"Man of Aran"

From the South Seas Flaherty brought back "Moana," but the simplicity of the natives' lives did not please the producers, who changed the theme of the tale, introducing according to the author "mellow guitars and shimmying chorus girls."

Two other efforts by Hollywood producers to employ the talents of Flaherty brought the inevitable clashes of viewpoint. Then we find Flaherty in Ireland, under commission by Gaumont-British. His "Man of Aran" (1933) is classified by the author as "perhaps the most outstanding example of the idyllic documentary method. It is the culmination of all of Flaherty's work from 'Nanook' on. The eternal conflict of Man and Nature—here of Man against the Sea, the ever-watchful enemy of Aran—is the essence of Flaherty's ideology."

Under the heading of "Naturalism and the Documentary" the author refers to "The Covered Wagon" as being just another Western film when the script came into the able hands of James Cruze. The theme of the subject is classified as without question one of epic dimensions.

"Granting that it was a film of fiction and that it was a re-enactment of past history, one must admit that the greatness of its theme transcended these factors and that in its relationship to national history it was documentary in its scope," declares the author.

Many Successors

The success of the picture was responsible for many followers, of which John Ford's "The Iron Horse" is the more notable of the group. Reference also is made to the work of Ernest Schoedsack and Merian Cooper in the production of "Grass," story of the migration of a half million men and women twice yearly in the search for grass on which to feed their horses and cattle.

Other chapters in the pamphlet are Continental Realism, Newsreel and Documentary, Documentary in the U.S.S.R., Joris Ivens, British Documentary, Rising American Documentary, Developmental Documentary, Modern Documentary and The Future of the Documentary.

Another of the prominent documentalists is Walter Ruttmann, whose "Berlin" is somewhat lengthily referred to. Ruttmann, too, it is added, may be well called one of the progenitors of the candid camera school of photography, for in the making of his picture he used a movie camera concealed in a specially designed moving van.

There is a wealth of interesting material which it is not possible to touch in this review. Much of that may be guessed at in the immediately preceding list of chapters. The use of documentary films in Russia and in England is described and also extended reference is made to a picture made for the Mexican Government—"The Wave," in 1935-6—and which was shown at the December dinner of the Pacific Geographic Society.

This pamphlet of Mr. Schustack is worthy of wide distribution, for it will have large interest not alone for educators. It will concern and entertain and instruct all thoughtful persons who attend motion picture performances—and that is a sufficiently large slice of humanity to count in any corner of the world.

Practical Speeds of Films and Plates

Published by Photo Utilities, Inc., this tiny book of twenty-eight 2½ by 3¼ inch pages has been issued as of December 1, 1938, at 25 cents a copy. It is a valuable addition to the impedimenta carried by any photographer having use at times for films the rating of which he knows not. Comparisons of meter speeds are based on Photoscop both at home and abroad.

Chapters are devoted to "Speed Numbers of Exposure Meters," "Motion Picture Cameras," "Practical Speed Values

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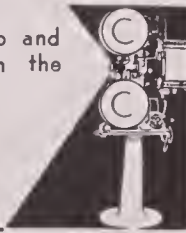
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in Photocop Speed Numbers," to which the major part of the book is devoted, and "Color Processes."

"Just for Fun"

In these forty 5 by 7½ inch pages are five scripts published by Home Movie Screen Plays, 944 Little Building, Boston, at \$1. The stories are designed to be short and to employ but few props. Following each scene appears the number of feet required, presumably for 16mm., as no distinction is made.

The players in each script run from two to five. The titles and number of scenes, with total footage minus titles, are as follows: Biscuits and Bullets, 32 scenes, 85 feet; Romance on Skis, 36 scenes, 86 feet; Minnie's Mince Pie, 43

scenes, 83 feet; Gold in Them Thar Hills, 28 scenes, 64 feet; Fisherman's Luck, 46 scenes, 95 feet.

Profitable Photography No. 12

The Fomo Publishing Company of Canton, Ohio, issues "\$50 a Week with Car and Camera," a 43-page, 6 by 9 inch book, at 50 cents a copy, that contains many tips for the person thinking of going into business with a camera. The publication is No. 12 in a series of "Profitable Photography." With an introduction by H. Rossiter Snyder, the booklet is written by Paul Glenn Holt.

The writer recommends a camera of postcard size or very close to that. The

lens recommended is an anastigmat with a speed of f.6.3 or f.4.5. Either roll films, film packs or cut films are preferred, or in that order. For the more profitable clientele the writer recommends a neighborhood that is neither inhabited by the lesser in worldly goods nor for the more fortunate. The in-betweens are the better prospects.

There are many suggestions as to how to handle tough prospects. In fact, as much attention is given to the actual problem of selling as to the technical job of getting out your customers' work. The book would seem to be stacked with sound advice.

The Fundamentals of Photography

The Eastman Kodak Company has issued its eighth edition of "The Fundamentals of Photography," by C. E. K. Mees, D. Sc. In the preface the author sets forth his belief that while a knowledge of the theory of photography is by no means essential for success in the making of pictures most photographers must have felt a curiosity as to the scientific foundations of the art and have wished to know more of the materials which they use and of the reactions which those materials undergo when exposed to light and when treated with the chemical baths by which the finished result is obtained.

The book has been written with the object of providing an elementary account of the theoretical foundations of photography, in language which can be followed by readers without any specialized scientific training. Its aim is to interest photographers in the scientific side of their work and aid them in getting, through attention to the technical manipulation of their materials, the best result that can be obtained.

The book contains 125 pages and is illustrated. The chapter titles are Light and Vision, About Lenses, The Light Sensitive Materials Used in Photography, Exposure, Development, Structure of the Developed Image, Reproduction of Light and Shade in Photography, Printing, Finishing of the Negative, Orthochromatic Photography.

'Wellcome' Photographic Diary 1939

There have been so many changes in emulsions this year, particularly in regard to the speed and nature of films, that the annual issue of the "Wellcome" Photographic Exposure Calculator, Handbook and Diary for 1939 will prove of particular interest to enthusiasts.

It is rightly regarded as an authoritative independent source of information not only on speed but on the other characteristics of practically all films and plates obtainable.

So much for the enthusiast, but the book is even more essential as a guide, philosopher and friend for the beginner

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Photography of Colored Objects

The fourteenth revised edition of "Photography of Colored Objects" has been issued by Eastman. The book, which contains 124 pages, is a statement of the theory underlying the photography of colored objects and the application of that theory to those branches of practice which are of the most frequent occurrence.

Though purely scientific terms and phraseology are not employed, no attempt has been made to be entirely "practical." The Eastman products are admittedly freely discussed, but it is stated the loss of generalization due to this procedure will be compensated by the advantage to be gained from definite information.

There are twelve chapters, five of which are devoted to filters.

Photographic Make-Up

Photographic Make-Up. By Wray Meltmar. Pitman Publishing Corporation. New York, Chicago. 218 pp. 60 illustrations. 10 tables. \$3.50.

Here is a book that will be welcomed in a constantly enlarging audience. It seems to be complete, to tell its story as it would be sought by those intent on making better motion pictures. And that goes whether the same be either amateur or professional. Primarily it undoubtedly has been written for the professional, but there is nothing in it that will not appeal to the amateur, or for that matter will not tend to improve the finished amateur product.

There are eight chapters, of which the first is devoted to "Make-Up and Its Use in Photography." This chapter is divided into four parts, Historical, Difference Between Stage and Panchromatic Make-Up, Color Composition and Photographic Reflection Powers of Panchromatic Make-Up, and Use of Panchromatic Make-Up in Photography.

The second chapter, divided into six parts, is devoted to "The Photographer's Use of Make-Up"; Chapter 3 is "Straight Make-Up for Women"; Chapter 4, "Corrective Make-Up and Facial Modeling"; Chapter 5, "Principles of Character Make-Up for Women—Use and Purpose"; Chapter 6, "Partial, Straight and Corrective Make-Up for Men"; Chap-

ter 7, "Principles of Character Make-Up for Men," and Chapter 8, "Direct Color Make-Up." Then there are chapters devoted to General Bibliography and Glossary.

All the illustrations in the book were made with Max Factor's panchromatic make-up, except those of women made with their own street make-up and so designated. All of the many photographs illustrating the make-up application steps were lighted as "flat" as possible to show the results of make-up—not lighting, posing or photographic technique.

The book is the result of fifteen years' experience in make-up in the theater, motion pictures and photographic studios and was born of the demands made by members of the Photographers' Association of America during the annual 1937 convention, at which the author gave three demonstrations and lectures on make-up for the camera.

The author has devoted the last five years exclusively to photography and make-up for the camera, black and white and direct color, lecturing and teaching the technique for stage, screen and street make-up.



LIGHTING NEWS *Extra*

ON THE SET

EVERY DAY

DUARC UNIQUE



Latest portrait of DUARC, the sensational twin-arc endurance champion which today added the anti-flicker championship to its laurels. The first twin champion twin arc has in the short period since its introduction received a tremendous ovation in all studios. A third championship for DUARC seems in prospect, for it is running a neck-and-neck race with Walt Disney's "Dopey" as the year's outstanding silent performer.

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GETS PRAISE

Hailing DUARC'S famous dual carbon feed as the finest yet seen in any twin arc broadside, experts from the Society for the Prevention of Cruelty to Arcs credited DUARC as the first twin to treat carbons properly.

"Anyone who knows anything about the care and feeding of arcs," said an S.P.C.A. spokesman, "knows that they demand individual treatment. The old-fashioned practice of keeping both arcs in a twin-arc yoked together like oxen, forcing them to feed as a unit, is unjustifiable brutality. Often one arc will burn its carbon faster than its companion: with the feed governed by electrical averages, one arc is starved and the other stuffed. No wonder the poor things flicker and change color!"

"DUARC, on the other hand, feeds each arc independently, at a rate governed by its individual needs. Such humane treatment is naturally rewarded with flicker-free light of uniform color. "We are glad to endorse DUARC as the first twin arc to treat its carbons right!"

DUARC HAILED
AS SECRET OF
FLICKER-FREE
ARC LIGHTING

Following hard upon the record-smashing 2 hr. 22 3/4 min. non-stop run which made DUARC the acknowledged endurance champion of twin arcs, the new twin is receiving additional plaudits as the unique flicker-free twin arc illuminant of the industry.

Comparative tests before scientific investigators and before practical technicians on major-studio sets prove DUARC the one truly flickerless lamp of its kind, making it a two-way champion. There have been innumerable twin arcs since the movies started using lights, but never before any capable of winning and holding a twin championship as does DUARC.

Students of arcology attribute this record performance to the fact that DUARC alone has progressively abandoned outmoded methods and applied modern scientific design to modern problems. DUARC, they say, is a real champion—and like all champions, cannot be imitated.

Sherlock's "Nation Builders" Winner

(Continued from Page 17)

less continuous work on it in his spare time. He is a commercial artist, and due to his training he selected a subject he believed would be colorful and at the same time appealing to the sense of taste. He first wrote a brief story and then made a series of sketches of the action.

Next he made figures out of Jello boxes, a rubber ball answering for the head, with arms and legs of wire, covered with wooden beads. Next came the sets in which the dolls were to work,

which took two or three weeks of spare time for each setup.

When it is said about 5000 single frame exposures were made it is a simple matter to understand the tremendous amount of work involved. To give a better idea of the labor connected with the making of the cartoon it was necessary to step from the camera into the set and move several figures, wheels and cut-outs a fraction of an inch. Then the photographer would step back to the camera and shoot a single frame, then back to the set and repeat the same procedure.

The picture consists of 125 feet of animation and 25 feet of titles. The

latter were double exposed over appropriate backgrounds, designed to fit in with the action that followed the words.

Epes W. Sargent Passes

The death is announced in New York of Epes Wentworth Sargent, first reporter on Sime Silverman's Variety in 1905. The end came suddenly just after he had reached his home following his weekly session at the press, sending away Variety, with which publication again he was connected.

"Chico," as he was familiarly—and affectionately—known, had been in show business for over fifty years. He was one of the early critics of vaudeville or variety, as earlier it was known. On the Film Index and then on the Moving Picture World, with which the former was welded, he fathered and developed the exploitation and scenario departments. With the latter publication he wrote "Technique of the Photoplay," which went through many editions. With the passing of the World he rejoined Variety, where among other things he wrote a special weekly department on exploitation.

In his failing health during the last few years he had declined efforts of his fellows on Variety to take off his shoulders some of the work he was carrying. He had kept up his usual routine, even to maintaining his regular contribution to Movie Makers, his article entitled "Hiring Type" appearing in the December issue.

The editor of this paper was associated with him on the Moving Picture World for over eight years. There he had learned to admire the man for his many qualities and his rare ability for doing an abundance of work. Twenty years ago his output was limited only by his manual dexterity at the typewriter—and that was plenty. He rarely stopped even for a moment to think of what he would write next.

As a rule before his fingers had ceased to run the keys his alert mind already was far ahead of them.

"Chico" was born in Nassau, in the Bahamas, where his father was United States Consul, sixty-six years ago. He is survived by a son, Epes Wentworth Sargent, Junior, in radio in Chicago, and by his widow, the daughter of the famed Carrie Nation.

B & H Extends 16mm. Lenses

Closely following the recent announcement of its new F1.5 Extol lens for 16mm. cameras, Bell & Howell reveals that the Extol f.1.5 is but the forerunner of a complete line of new 16mm. special purpose lenses now ready for the trade.

It is claimed for these lenses that while offered at an attractively low price they are excelled only by the Taylor-Hobson lenses regularly furnished as standard equipment with Bell & Howell motion picture cameras.

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American Motion Pictures Popular in British Malaya

The large majority of motion picture films shown in British Malaya are produced in the United States, and have become extremely popular with Asiatic audiences because of their action, according to a report to the Department of Commerce from the office of the American Trade Commissioner at Singapore.

British producers are the only competitors that distribute films that are in the same category as American, but the outlet for British films is largely confined to cities where live the majority of Europeans, who are British. Indirect competitors of American films are Indian and Chinese films which play to a field of their own and do not directly clash with American films, the report stated.

Distributors estimate that between 65 and 70 percent of the films shown in British Malaya are American, with an annual earned revenue of approximately \$950,000, according to the report.

Stills from 8mm. Film

(Continued from Page 22)

hung between the forward upright and carrier. (Fig. 1).

My only concern in the construction of this gadget was the amount of light to be admitted by the shutter. The first shutter I prepared had an aperture about an inch across. To obtain an idea on the amount of light to be admitted to normally expose my negative I cut a piece of film from a roll and slipped it into the holder. I then exposed a scene by rapidly sliding the shutter across the opening.

Developing the negative I found the process far too rapid and made a new shutter with an opening just a quarter of an inch in width. Feeling this was just about right I loaded a full roll of film in the device and exposed eight scenes.

This roll was handed in at a camera store for processing and was developed the same as any other camera film. I found upon receipt of the processed film and prints that my negatives were of normal contrast, which assured me that my second shutter opening was correct.

Working in Darkroom

As I now have it the enlarger isn't adequately sealed from extraneous light to operate it in daylight, so I used an orthochromatic film (Verichrome or Plenachrome) in a darkroom lighted by a ruby lamp.

The latter made working conditions very satisfactory, while the cardboard shields installed on the layout very adequately protected the film from light coming from the projector lamphouse.

Before loading with film I placed a piece of cardboard of the estimated thickness of the film and backing in the

holder and carefully focussed my projector lens. Once focussed, no further handling of the lens is necessary throughout the exposures.

After exposing each scene I turned off the projector lamp and by the light of the ruby lamp I opened the film carrier and wound the film to the next unexposed section, using the numerals on the paper backing as a guide.

Once the contraption is constructed it is a very simple matter to procure movie film enlargements. Select your scenes beforehand, and if they are on a reel mark the location of the desired

scenes with a bit of thread of scotch tape. Then snap the reel in place on the projector and wind up on the take-up reel until the desired frame is in place.

Then snap on the projector, slide the shutter rapidly across for the exposure, snap off the projector lamp and wind your film spool for the next exposure. In this manner a roll can be exposed in a very few minutes.

The chief delight in exposing on a roll of film in the manner outlined is that the neighborhood processor can develop and print the film for you if you lack the facilities to do this job yourself.



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Poland Buys 200 16mm. Sound Film Projectors

The Polish Government Institution PTA (Polish Telegraph Agency), at Warsaw, has placed an order for 200 American-made 16mm. sound film projectors together with gasoline-electric generators, according to a report to the Department of Commerce from the office of the American Commercial Attache at Warsaw.

This institution is the official news, news reel and information agency of the Polish Government. The value of the projectors is estimated to be \$65,000. Delivery is to be made in lots of twenty-five to fifty. They were sold in competition with projector manufacturers in Germany, the report stated.

These projectors are to be resold on easy, long-term payment plans to small communities for visual instruction in agriculture and livestock raising, to labor camps and training schools for instruction and entertainment, and to military camps, for visual instruction, as well as for Government purposes.

Each projector will be accompanied by an American-made 110 volt, 1,000 watt gasoline engine operated generator so that they can be used if electricity is not available.

American educational films concerning agriculture, farm building and construction, and other subjects are to be purchased later, according to the report.

Progress in 1938

(Continued from Page 10)

development of several types of automatic projectors for miniature-camera slides, some having a capacity of 60 or more slides, and operating by remote control, or if desired, wholly automatically.

Still Photography

The fast film developments of the cine world have also aided the still photographer, as both Agfa and Eastman market cut, pack and roll film of similar types. This advance has been met by the development of special, smaller flash globes, both wire and foil filled, for use with the faster emulsions. As already mentioned, Kodachrome is now available in cut film for most of the more important sizes, and an improved Dufaycolor emulsion is available as roll and cut film.

Several firms commercially make color prints on paper from Kodachrome, and one extends this service to Dufaycolor as well. The Dufay firm, both here and abroad, have initiated a service for making color paper prints from Dufaycolor transparencies, and in this country color enlargements are also available.

There has been a marked increase in the use of Kodachrome in national magazines, with the process to a considerable extent superseding the more cumbersome "one-shot" cameras.

A significant development in the still

camera field is the rise of several types of American-made miniature cameras. None of these have invaded the DeLuxe class to compete directly with the famous foreign outfits, but they have—especially in the case of the Argus—scored a marked success in the medium-price range.

Among the foreign miniatures, detail refinements are noted, and at least one new, fully-automatic camera comparable to the older "Robot" has appeared. The use of miniature cameras in studio still work has definitely increased.

A most interesting innovation in amateur still cameras is the new Eastman "Super Six-20," with a built-in photo-electric cell to control diaphragm adjustments.

Television

Television, according to authentic reports, appears to be on the brink of commercial realization. Abroad it appears to have been put to somewhat wider use than here, but experimental work in this country is now giving way to regularly scheduled commercial broadcasts of sight and sound.

Commercial television receivers are promised in the New York area this spring, to take advantage of scheduled telecasts in connection with the New York World's Fair. In Los Angeles, the Don Lee Broadcasting system, after telecasting several million feet of motion picture film, has for the past six months

conducted regularly scheduled telecasts from live-action subjects.

Present technical limitations of television appear to make it impractical to broadcast vision more than about 50 miles, or to feed video programs to a national wired network as is now done with sound radio.

It is therefore to be expected that a considerable field awaits motion pictures as producers of "transcribed" sight-and-sound programs.

There appears, however, to be a definite tendency among television and engineers and executives to attempt to develop their own technical and other talent rather than borrowing, where possible, from picture-trained personnel—an attitude which the film industry and its branches would do well to answer with concerted action.

"Year's Photography" Out

"The Year's Photography 1938-9," published by the Royal Photographic Society, London, maintains its high photographic standard. The book contains 69 plates, to 56 of which are devoted a full page.

The comparatively brief text contains articles on "Pictorial Photography," by J. Dudley Johnston, Hon. F. R. P. S.; "The Lantern Slides," by R. H. Lawton, F.R.P.S.; "With Nature and Many Cameras," by Ralph Chislett, M. B. O. U., F.R.P.S., and "The Magic Eye," by James Mitchell, M. A., B. Sc.

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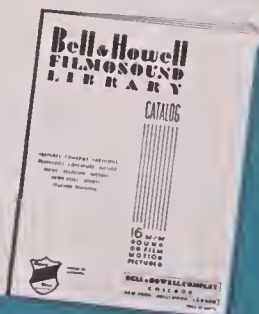
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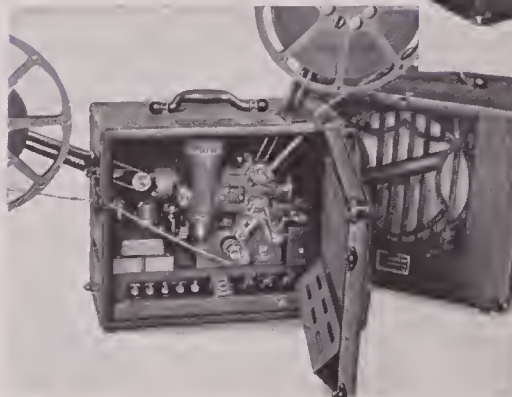
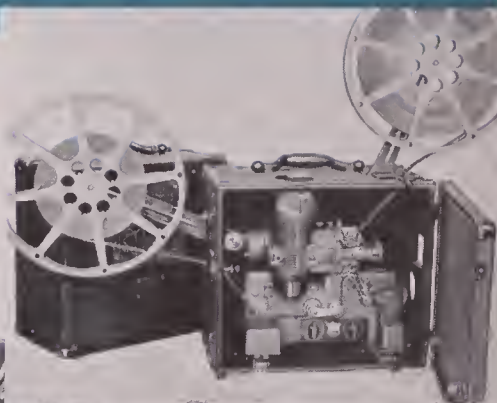
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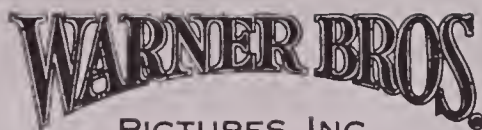
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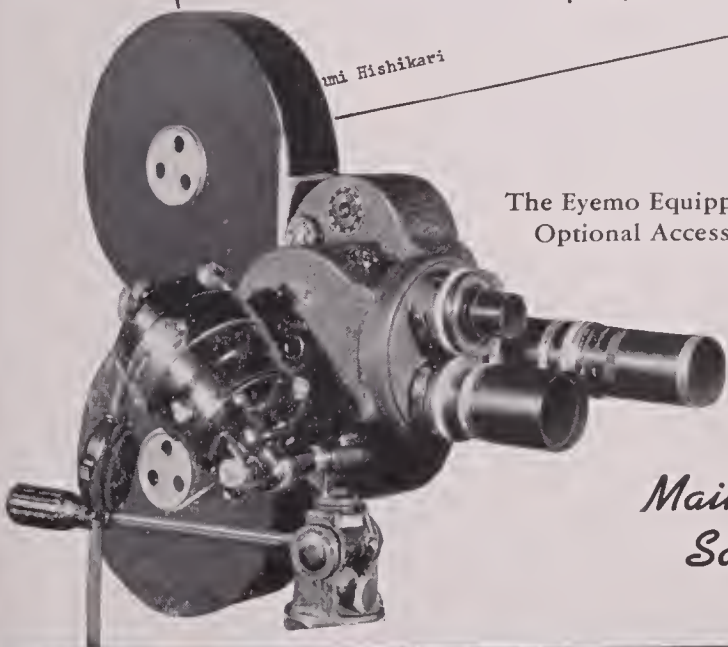
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Vol. 20

February, 1939

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Front Cover

THIS unusual picture of a camera truck shows the second unit of Twentieth Century-Fox's "Kentucky" crew at the Inglewood track. One of the Technicolor workers describes it as the best camera truck in the industry. Its designer and owner, "Kansas" Grosso, is shown looking out from the driver's seat.

At the top, left to right, are Harry Jackson, A.S.C., and Thad Brooks; at the extreme left of middle row, unidentified track employe; Russell Crane, Phil Mandella, Charles P. Boyle, A.S.C., in charge of the three Technicolor cameras and the crew (he may be recognized in spite of his disguise as he looks out from behind the pipe); Roy Clarke, Peter Keane and Otto Brower, director of the unit; in the driver's seat, "Kansas" Grosso; at the rear and the lower camera, Roger Mace and Bill Whitley.



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16 MM. HYPAN AND SUPERPAN FILMS



MAKE-UP AND SET PAINTING AID NEW FILM

By JOSEPH VALENTINE, A.S.C.

Photos by Roman Freulich

CINEMATOGRAPHY is a good deal like a mathematical equation: change one factor, and you find it has become necessary to make corresponding changes in several others to keep the result correctly in balance.

Just now we're changing one of the

basic factors—film—with the introduction of the new "fast film" emulsions. In consequence, most of us are discovering it is necessary to make complementary changes all along the line in order to keep the final result at the balance we call good cinematography.

This statement implies no criticism of the new emulsions. They are a very practical advance in film making and offer great possibilities for the advancement of cinematography. But if we are to utilize these possibilities to the full we must recognize that the sensational increases in speed shown by the new emulsions are by no means the only changed factors in our problem.

Utilizing this increased speed is a relatively simple matter, depending a great deal upon each individual cinematographer's taste and technique and upon the methods of the laboratory processing his negative.

In my own case I have found it possible to make an overall reduction of about 70 per cent from the lighting level I normally employed with the older film. This is merely a matter of using smaller lamps, smaller globes and—especially in the case of "broad"—more diffusion.

Until the eye becomes accustomed to reading these new, low levels of illumination, a modern, photoelectric light meter, such as the General Electric which I have for some time used, is extremely helpful.

Increased Sensitivity

But lighting and exposure levels are only part of the problem. Perhaps the most important single factor in dramatic cinematography is the relation between the color sensitivity of an emulsion and the reproduction of pleasing flesh tones.

This brings us to the closely inter-related problems of camerawork and make-up. Technical factors that affect one are likely to affect and demand changes in the other.

This was one of the first things we encountered when we started photo-

Deanna Durbin (left) wearing conventional make-up and Nan Grey (right) wearing the new make-up, in a scene from "Three Smart Girls Grow Up." The film used in the still camera did not have the sensitivity characteristics of "Plus-X," but some idea of the improved skin textures given by the new make-up may be gained nonetheless.



graphing my present production, "Three Smart Girls Grow Up," on the new film. To put it briefly, the rushes showed that faces were not photographing as we were accustomed to seeing them.

I took this as an indication that the film and makeup were not properly coordinated. It seemed to me that with the overall increase in speed, the film's response to the red elements in our standard make-up had become more noticeable.

Speaking photographically, faces are highlights—and a highlight-response that would not be noticeable on a slower film could be magnified by a faster, more sensitive film.

This has an important bearing on the photographic rendition of flesh tones. The standard "panchromatic" make-up is a range of warm brown tones, all of which contain a considerable proportion of red.

With film of what we have heretofore considered normal sensitivity, these red-brown tones have been photographically neutral, giving a correct black-and-white rendition of normal face tones.

Non-Red Make-Up

The higher sensitivity of the new film changes the effect of this standard make-up. The red component of the make-up registers with an intensity out of normal proportion, while the other components register approximately normally.

If increased film speed were the only consideration we might expect to solve the make-up problem as we did when superpan replaced the earlier pan, by simply using a darker shade of make-up. Even with the increased sensitivity of the new film it might be thought that this expedient would solve the problem.

But in actual practice this cannot be done successfully, as the fact that the red components and the rest of the base tone do not photograph uniformly destroys the conventional balance. Despite the best efforts of cinematographer and make-up artists, faces have an unpleasant tendency to photograph muddily—to look unwashed and blotchy.

As we discovered this, Universal's make-up chief, Jack Pierce, and I agreed that the quickest remedy lay in a completely new system of make-up. To that end we experimented, and with the collaboration of the Max Factor organization finally evolved a range of grease paint and powder which restore the normal balance when used with the new film.

Like the conventional product, the new make-up is fundamentally a range of photographically neutral brownish shades. But the red component has been

drastically reduced so that the natural color of the face can come through.

The result is a range of make-up tones which remain photographically neutral with the new, more sensitive film. Kodachrome stills made on the set also indicate that this make-up will be equally useful for natural color cinematography.

Thin Application

The nature of the pigments and support used in the new make-up is such that it must be applied much more thinly than has been common with conventional make-up. The very thinnest coating suffices—so thin that much of the natural tone of the skin shines through.

The new make-up can be used for shaded or corrective effects quite as well as the old. However, greater care must be taken in blending the adjacent areas of different shades, or the more sensitive film will reveal the artifice.

A special powder, chromatically the same as the base, and corresponding lip-rouges, etc., are being compounded to complete the system. A full range of shades is of course being provided, to

meet all normal requirements for making up both women and men.

While the shades compare closely with those of standard make-up, they are for convenience given lower numbers, ranging from 1 to 12.

The first player to wear the new make-up for actual production was Nan Grey. From the start of production we had trouble making her look as well as she should with the old make-up and the new film. To put it bluntly, no matter what Pierce or I did, we could not give her the clear skin texture a young girl with her fair hair and skin should have.

Therefore as soon as we felt reasonably confident of the new make-up, we applied it to her. And our troubles were over: her face rendition cleaned up at once, losing its blotchy, muddy tones, and she became the clear-skinned young girl she should be.

A similar improvement was noticed when Robert Cummings, playing opposite her, also changed to the new make-up. Now as fast as production schedules permit, the rest of the cast, including the star, Deanna Durbin, are being



One of the natural-colored backings lit for a night effect. The body of the backing is opaqued, and the windows illuminated by light shining through areas not blocked out.



Universal's "Three Smart Men"—Director of Photography Joseph Valentine, A.S.C. (left), Director Henry Koster (center) and Producer Joseph Pasternak (right), studying light tests of a day's shooting on "Three Smart Girls Grow Up."

Finally we arrived at the present range of colors and shades which have been standardized and are being used for all the interiors of our present film.

Standardized Colors and Shades

This system consists of four standardized pastel tones: a violet-gray, a blue-green, a pink, and a tan. Each of these is in turn divided into four standardized shades, ranging from a No. 1 or light shade, which is virtually a pure color, to a No. 4 or dark shade. The darkened numbers are produced not by deepening the color but by graying it.

In practical terms this means that we have a range of sixteen standard colors for use in painting our sets, each tone and shade of which is an absolutely known factor to both the cameraman and the art director.

When the art director specifies such-and-such a color scheme for his set, he not only knows precisely how it will look, but from tests and production already available to him he knows how each shade will photograph.

He has ample range of coloring to afford his artistic imagination full play, and in using these tested colors he can be confident that the likelihood of expensive misunderstandings between sketch and camera are virtually eliminated.

All of us have had experience with set colorings which in the art director's sketch or in a sample appeared one thing, and which turned out to be quite different on the set itself, and with
(Continued on Page 85)

switched to the new make-up, with corresponding improvement.

The individual reactions of the players to the new make-up revealed an angle which those of us who are concerned with make-up, so to speak, in the abstract, might ordinarily overlook.

The people who wear the make-up have all commented that in addition to giving them a better appearance on the screen, the new make-up, due to the much thinner application necessary, is more comfortable to wear. This, of course, pays practical dividends in better, more natural acting.

Pastel-Toned Sets

Another innovation put to its first extensive use on "Three Smart Girls Grow Up" is a new system of set painting upon which Art Director Jack Otterson and I have collaborated. As it is based on an idea with which we have experimented for nearly a year, it can hardly be called a development stemming from the new film; but in practice we have found it is even more advantageous with the new film than with the old.

Briefly, it is a system of painting sets with a standardized range of pastel shades.

For some time Otterson and I had been asking each other why sets should be painted so generally in a monochromatic range of whites and grays, and why, on the rather rare occasions colors are used, they should be used apparently so haphazardly.

One of the pastel-toned sets for "Three Smart Girls Grow Up." The walls are painted in two shades of pink; the columns, baseboard, corona, etc., in light tan; the arch over the far door in light violet-gray; the wall in the right foreground is in two light shades of blue-green.

Sooner or later, we reasoned, natural color cinematography will force us to use color. Until then, why should we not make use of the known facts of monochrome color rendition to make sets more natural, and cinematography and lighting simpler?

Fortunately here at Universal we are in a position where we enjoy opportunities better than ordinary to experiment with anything which seems to have a reasonable chance of benefiting production. With such executive cooperation, Otterson and I were able to make rather extensive tests of many pigments and ideas.



GADGETS FOR THE MOVIE MAKER

By ROBERT W. TEOREY

MANY a movie maker with a low-priced camera in his possession is the producer of such outstanding films that viewers of his efforts are often led into the mistaken belief that the filmer is the possessor of one of the ultra-fine cameras with all the refinements and accessories deemed necessary in bringing forth the most involved effects.

However, as has been repeatedly voiced, the answer lies with the man behind the camera and credit is due him in the majority of cases rather than to the particular piece of mechanism exposing the film. If we have a real desire for unusual effects in our pictures—then no matter how simple the camera—we can achieve them if we make up our minds to do so.

The sum of the whole situation revolves upon our willingness and ability to apply simple adaptations or devise useful expedients applicable not only in filming, but in the later stages of editing and projecting; and if we are able and desirous of applying ourselves to these ends many short cuts are presented that speed up our efforts and help in bringing to our audiences more finished, entertaining and smoothly running movies.

Doing Much With Little

After all, this is our chief aim in filming and slight efforts on our parts

to better our cinematics should always result in happy endings.

For some years I have used the popular Eastman Cine 8 in making my movies. This camera is equipped only to take pictures at the rate of 16 frames per second and to indicate approximately the amount of footage remaining to be exposed.

In other words, it is built for ordinary movie making only. Yet, with all its limitations, I have succeeded in making super-impositions, multiple exposures, animations and lap dissolves with excellent accuracy and a minimum of labor.

Formerly when I desired to make double exposures, lap dissolves, etc., I timed my leader and scenes to be used for the effects with the aid of the second hand on my watch. In time I became dissatisfied with this method and decided my camera should do this work.

The gadgeteer within me got busy. I devised and incorporated an audible timer in my camera that proved to have more than a single use.

Two tiny lengths of spring brass were cut to about an eighth of an inch in width. These were bent in the shape of an L with the upright about $\frac{3}{32}$ of an inch in height. The lower projection of each served as a soldering base and were secured, one directly opposite the other, on the surface of the large film sprocket within my camera.

A long piece of the same material was then cut to the width indicated for the height of the upright and this was soldered to the inner top edge of the camera cover. This strip was bent toward the sprocket, and when the cover was in place the tip encountered the short uprights briefly as it was caught and released during filming (Fig. 1).

Invaluable for Timing

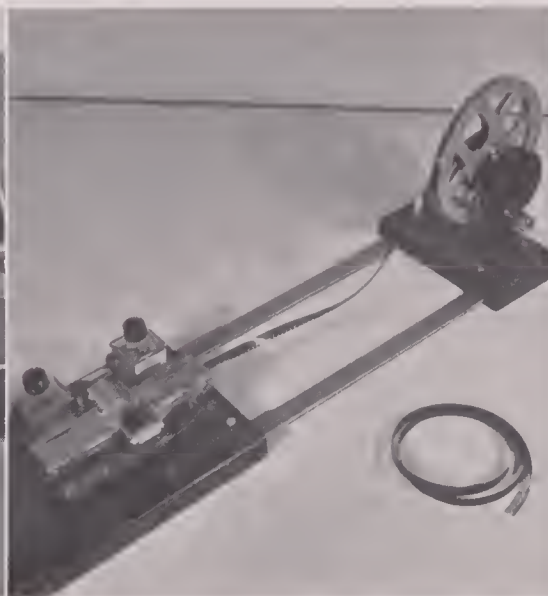
The film sprocket is exactly eight inches in circumference. Thus a click was audibly apparent for every four inches of film exposed. It was just a matter of a short time until I learned the numbers of clicks necessary to run off the leader of a new roll of film and this proved more accurate than the visual footage indicator built in the camera.

In making double or multiple exposures it proved to be invaluable for timing the scenes to be used for special effects. In addition, this timer proved its worth in noting the length of scenes during ordinary filming, thus eliminating

Fig. 1. Pointers indicate spring in cover and tips on camera film sprocket.

Fig. 2. Flat curtain rods permit drawing out and telescoping of working board.

Fig. 3. Supernumerary spindle shown on left of film viewer.



any doubt as to whether the shot would be too short or too long.

Filmmakers often have occasion or the desire to mask off scenes to procure multiple exposures. I used the small slip-on filter holder made for my camera with very good effect for holding a mask in position.

The filter glass is held in place by a screw retaining ring. Removing the filter I used it as a guide to cut a mask from black paper. This was cut in half and a section fitted in the holder which was slipped on the camera lens to mask off the portion of the scene not desired.

When the unmasked portion of the scene had been exposed and the film had been run through the camera for the second time for the next exposure, I rotated the mask to cover the exposed section, being then in readiness for shooting on the unexposed portion of the film.

Even with wide open lens, this mask, although close to the objective, gave excellent results.

Editing Board Important

The editing board is exceedingly important in putting the finishing touches to our scenes. Without editing we would generally have a hodgepodge of shots on our reel—mostly unrelated and in many cases running too long upon projection—so it readily can be understood that this task is of paramount importance in smoothing out the production of the day.

Usually the rewinds, film viewer and splicer are arranged on a long board that most of us find awkward to store away due to its length. To do away with this undesirable feature I cut my board to the shortest possible length with just sufficient room to mount my equipment.

Then I sawed off the right end section of the board which held my rewind. Fastening flat curtain rods on the under side made it possible for me to draw out the right rewind to ample distance for comfortable use and by merely telescoping the unit I found the minimum of space was needed for storing (Fig. 2).

As now manufactured, the Eastman film viewer I use necessitates a long board, as the left rewind has to be offset in order to thread the gate. I built a small arm with reel spindle which I mounted on the viewer (Fig. 3 and 4).

This permitted my film reel to rest near the viewer gate, and being in the same plane as the latter my editing was simplified several times over. Those using this type viewer and not wishing to work with metal can easily mount a small wood upright on the editing board adjacent to the viewer.

A bolt of the diameter of the hole in the reel can be secured to this to serve as a spindle. Of course this helps in more closely grouping the editing accessories and facilitates the actual work involved in working over your film.

Keeping Tabs on Film

Various methods are used in editing to keep tab on cut film for splicing. One of the simplest is to use spring clip clothespins threaded on a string—each pin numbered in rotation to serve in identifying the film cuttings from the work sheet. I worked up a more permanent arrangement from two cardboard folders commonly used for filing purposes.

I bent the edges of one of the folders to form a shallow box—each section just deep enough to hold coils of cut film. Then cutting long strips slightly more than my film width from the other folder, I glued them in criss-cross fashion in the shallow container, finding upon completion that I had twenty receptacles in each half, or forty in all. These I numbered for film identification (Fig. 5).

Fig. 4. Reel in place on auxiliary spindle.

Fig. 5. Film editing receptacle ready for use with inner cover shown on left.

Fig. 6. Extra switch shown on lamp house; pilot light on base. Bolt for easy focussing visible on lens barrel.

I next made an inner cover from the remaining half of the second folder, and when I found it necessary to discontinue work for any reason I placed this between the two halves to prevent the film in the top section from dropping into the lower, closed the affair and snapped a rubber band about it. In this manner my cut film could be easily put away, free from dust and quickly available for editing at the next opportunity.

Naturally all these little expedients are very helpful in preparing the film for projection. The latter deserves a fair amount of attention, for during that function the results are brought to the scrutiny of others.

Lessening Noise

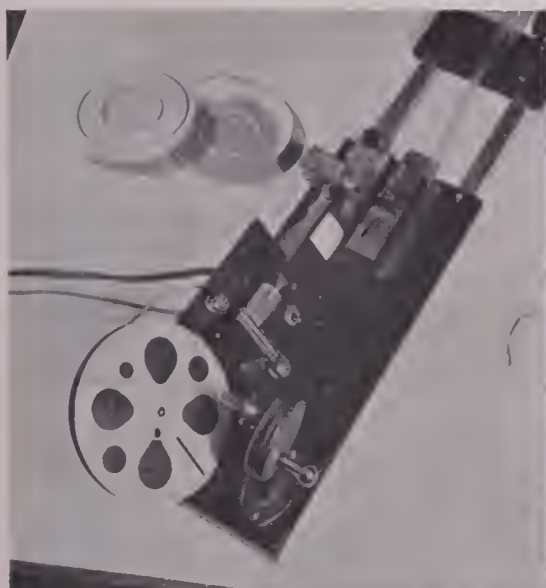
Most projectors are rather noisy in operation, and a sponge rubber pad placed beneath it will appreciably lessen the noise. On many occasions it has been my experience to hear the cry for lights upon the completion of the showing of a reel. Changing reels seems to be something we are unable to overcome; however, it should be done as painlessly as possible.

To overcome the light problem I installed a double pole toggle switch on my projector lamp house. I cut one section into the projection lamp circuit and connected a pilot lamp to the other pole of the switch.

When the reel ended, merely snapping off the projection lamp automatically lighted the pilot lamp, thus eliminating that unpleasant call or search for room lighting.

The pilot lamp used for the purpose is of the type with a bakelite shield purchased in any dime store for a few cents. I mounted it on my projector base (Fig. 6).

This projector has a lens with a knurled end for finger grip during focussing. This is a bit awkward to handle, so I focussed for my usual screen size—marked the outer edge of the lens barrel and drilled a small hole in it just large enough to accommodate the end of a small bolt about three-quarters of
(Continued on Page 87)



METAL FILM STEADILY PROGRESSES

By DR. ROBERT W. CARTER

*with Taylor-Sloane Corporation,
342 Madison Avenue,
New York*

THE advent of metal film for practical use took place in November, 1938. Previous articles in this magazine have detailed the history and technical development of metal film since the first decade of this century.

Executives, exhibitors and experts in the motion picture field have witnessed demonstrations of pictures and sound from metal film. They were unanimous in their opinion that metal film has an immediate and widespread use in the entire projection field.

The writer is grateful for the flood of inquiries which followed the appearance of the previous articles and takes this opportunity to discuss and answer some of the principal problems and queries presented in the correspondence.

It should be stated at the outset that metal film will in no wise jeopardize the present status of the professional motion picture operators. It is true that the fire hazard has been completely eliminated. It is also an established fact that metal film will not break or tear in its passage through the projection machine.

Concentrate in Projection

We submit that with the removal of these hazards the operator will be better able to concentrate his attention on his main objective, the superior projection of motion pictures.

The first machine used for the projection of metal film was an adaptation of a standard model with gate, optical system and soundhead converted especially for this purpose. The machine was so constructed that it could serve a double purpose. It could be used for the projection of both standard cellulose film and metal film.

The task of changing from one to the

other was a matter of a few seconds. For metal, the lamp is swung to the front, a special gate is put into position and the metal film is threaded through the other soundhead which is specially constructed for metal film.

This first machine gave us the basis for a fair comparison between metal and celluloid film, since both could be projected from the same machine under the same conditions. The tests proved that metal film was equal to celluloid film in pictorial quality and slightly superior to celluloid film in sound value.

Physical Facts

For the benefit of those who desire the fundamental physical facts about metal film we state the following: The film is constructed of a special alloy and is usually .003 inch in thickness; the image is on a highly reflective surface, and projection is by reflection from this surface.

A reel of 1000 feet, 35 mm., weighs 6½ pounds. The film may be spliced with a special cement in the usual manner. The film is threaded through the projection machine in the standard manner with the exception of one sprocket which leads to the reflecting soundhead.

The film is not affected by the heat from the lamp. It will never shrink or stretch, and with ordinary care will last indefinitely.

The optical system does not require condensers or any device to prevent the light ray from striking directly upon the film. The full power of the light is impinged directly upon the metal film as it passes through the gate aperture.

The light reflects directly from the polished film surface through the lens to the screen. Information regarding the optical system is found in the American

Cinematographer for September, 1938. This article also gives a reproduction of the actual tests of the reflection factor of metal film as compared with ordinary film.

In this test, metal film shows a reflection factor 12 per cent higher than cellulose film. Anxiety was expressed about the possible noise that metal film might make in its passage through the machine.

The demonstration proved that metal film is just as silent as the standard film. The reason for this is that the film does not shrink or stretch, and passes through the sprockets with mechanical precision.

Emulsion Character

The important questions from the various laboratories center around the character of the emulsion and the processes of printing and finishing.

A positive print is made on a metal film with the same machine and in the same manner as a positive print on cellulose film. The negative is brought into contact with the sensitized metal and exposed to the source of light. The printing time on metal film for any given emulsion is less than for ordinary film.

Developing is more rapid than usual, and the time for fixing and washing is about half that ordinarily required. The drying economy is the most remarkable of all. The film may be passed through a drying cabinet at temperatures as high as 450 degrees F. At this temperature the film will dry in 2½ minutes. Emulsions on metal may have the same photographic values as those used on cellulose.

Where metal film is required as a negative, the exposure time in the camera and the general photographic technique is the same as usual. The developing, fixing, washing and drying of a metal film negative may be done in one-third the usual time.

The outstanding superiority of a metal film negative is the unusual absence of grain, coupled with positive permanence and practical indestructibility.

Any Type Emulsion

The metal negative must be printed by optical printing. When prints on both sides of the metal are required, a standard Debie printer may be used for this purpose. If this type of printer is not available, both sides of the film may be printed in a standard machine, and the whole then developed. Care should be exercised to keep the emulsion surfaces from scratching or abrading while in a wet condition.

Any type of photographic emulsion may be coated upon our metal film. The essential physical requirement is the treatment of the emulsion together with the treatment of the metal base. This includes the necessary reduction of the interfacial tension in the emulsion and the rendering of the metal surface compatible with such an emulsion.

The advantages of metal film from the

laboratory angle are many and important. These include positive uniformity in the co-efficients of expansion and contraction, the elimination of stretching and shrinking at all times and under all conditions, and standardization in all operations because of the fixed factors inherent in metal film.

Life of Cellulose

We believe that metal film is ideal for color work. It is well known that the passage of light through the cellulose base and three color film surfaces not only diffuses and refracts the light but seriously reduces its velocity.

We have found that a color print on metal with its high reflecting surface gives a more luminous image on the screen than is obtainable with the ordinary color film now in use.

Coating, printing, developing and projecting from metal film are based on fixed physical factors, and the making of color film can be likewise standardized.

Our statement in a recent issue of a widely read weekly magazine that cellulose film would not last for 20 years was challenged by one of the distinguished scientists in the photographic field. In our answer, we produced such overwhelming evidence that we believe this phase of the controversy to be now closed.

To the many librarians, government officials and technicians, we convey our regrets that we were forced to insist on the fact that cellulose films were not to be depended upon for permanent records. We submit that all unbiased scientific investigation has established the fact that cellulose film should not be used where an endurance of over ten years is essential.

It is gratifying to know that valuable cellulose negatives now in existence may be printed on metal film with the positive assurance that they will endure indefinitely.

Those engaged in aeronautical photography have been concerned with the adaptation of metal film for their purpose. We propose to produce an 8-inch roll of metal film in 500-foot lengths that will not exceed 16 pounds in weight.

With a positive emulsion, this may be developed in the air and calculations carried out with the utmost accuracy based on the fact that the metal expands and contracts equally over the entire surface.

In Case of Fire

We have taken positive prints on a roll of metal with a positive solution, exposed the same, and secured the finished print in less than three minutes. Photographic development on a metal film is confined exclusively to the emulsion. In amidol or metol hydroquinone, development takes place in less than two seconds washing; fixing may be done in 60 seconds; and final washing and drying over any heated unit in a further 60 seconds.

We find the results of the prints

are permanent and almost grainless. In case of fire, the image is not destroyed until the heat reaches the melting point of the metal.

In conclusion, it is necessary to deal briefly with the great number of inquiries from persons using 16 mm. film. This is of special interest to us, as we believe the intimate records of childhood and the valued records of science and business deserve a permanent photographic medium.

We are developing as rapidly as possible machines for projecting 16 mm. metal film, since we are convinced that the high costs in this field will be considerably reduced with the use of our film.

This feature together with the facts of positive non-inflammability and permanence offers professionals and amateurs in the 16 mm. field something to look forward to with anticipation.

Major Contribution

To the engineers, architects and various craftsmen who require metal film for maps, diagrams, patterns and many other uses, it must be repeated that we are research engineers, and that as fast as capital will cooperate with us we will be able to produce the material and equipment to comply with the various requests.

It is particularly gratifying that metal

film makes a major contribution to the field of sound recording of voice, music and all phases of sound reproduction. The sound track on our highly reflective metal ribbon has proven to be ideal for the reproduction of radio programs.

Both sides of the film may be used and as many as ten tracks may be printed on each side, thus giving 200 minutes of sound recording on 1000 feet of film that weighs 6½ pounds and takes up a space 8 by 1⅜ inches.

One of the major applications for metal film is in the field of permanent record. The opportunity now presents itself to record imperishably the word and deed of our living great, distinguished men and women in the fields of science, literature, medicine, politics and the other ranges of human endeavor.

What would we not give if we could see and hear the immortals who have made their impress upon the history of American civilization. The utmost which our forefathers could do was to record their words and actions by means of books.

The least we can do for coming generations is to let them see and hear as well as read the accumulated wisdom of our age. Education from books is a slow laborious process; education from the silver screen is the tuition of the masters in person.

New B&H Film Shows How Studio Pictures Are Made

By the time this appears in print the new Bell & Howell film entitled "How Motion Pictures Move and Talk" will have been flashed upon the screen in thousands of schools, from coast to coast.

This fascinating educational film makes plain to all who see it the mechanical, electrical and visual principles through which modern talking movie films are made possible.

The pictured story traces the production of a Hollywood feature release from the unperforated raw film to the eventual shipment of 16mm. reduction sound prints in labeled metal containers. It illustrates "persistence of vision," the momentary retention of images

within the eye which makes possible the illusion of motion upon the motion picture screen.

The part played by each successive cine machine—perforator, camera, developing machine, splicer, printer, projector—is then made clear. Each is shown contributing its special bit toward attainment of the final sound-on-film motion picture product.

Baby Keg-Lite Found Ideal For Use on 750-Watt Globe

The popular Baby Keg-Lite of Bardwell & McAlister, Inc., has been found to be an ideal lamp in which to use the new 750-watt globe just introduced by the General Electric Company. Tests concluded at the BM plant show the 750-watt globe to give the same life as the 500-watt prefocus projection lamp which has been used in the studios for some time.

During these tests the lamp housing was not unduly hot, nor was there a trace of blistering or other globe deformation.

The 750-watt light unit is in a T-24 bulb with medium bipost base. It has the same light center and is interchangeable with the 500-watt T-20 medium bipost lamp. The Baby Keg-Lite is regularly supplied with either this new medium bipost socket or the older prefocus socket.

A recent optional feature on the Baby Keg-Lite is a collapsible stand which can be conveniently carried in a small space.

It Is on Sale

Inquiries have been received regarding the booklet on documentary films written by Edward H. Schustack, the title of which is "The Documentary Film: History and Principles. Publication No. 2 Film and Sprockets Society of City College of New York." It may be secured by addressing the Art department, City College, 139th Street and Convent avenue, New York City, and inclosing 25 cents.

KEEN COMPETITION MARKS 1938 CONTEST

By WILLIAM STULL, A.S.C.

COMPETITION in the 1938 American Cinematographer International Amateur Movie Contest was keener than ever before. As one who has participated in the judging of virtually all of these affairs since the first contest in 1932 I can certify that the judges this year had a tougher job than ever before.

Every year there have been plenty of outstanding films; this year there were more than ever. As a rule there has been a well-marked gap between the winners and the honorable mentions and between these and the field. This year, on the other hand, the standard of competition had so advanced that these gaps had almost vanished.

Virtually all of the winners of class awards were serious contenders for the grand prize; the final judging sessions required hair-splitting on a basis as strict as though an award for professional cinematography were being decided.

In the same way most of the winners of honorable mention proved perplexingly close to prize winning calibre. And many of the unsung entries that made up the field merited honorable mentions, had not the judges been forced to draw the line somewhere!

NATION BUILDERS

James Sherlock's "Nation Builders," in winning the grand prize, therefore won under the most exacting of judgment. Technically it was almost flawless; my own score sheet comments on but a single scene of less than professional phototechnical quality.

Most remarkable was the smoothness of Sherlock's filter continuity throughout this 900-foot film. Repeatedly we saw scenes where an unwary filmer might have been trapped into playing to the gallery—utilizing an opportunity for spectacular overcorrection which by its very effectiveness would have distracted attention from the story the camera was trying to tell.

Sherlock instead held to a simple, normal correction—underplaying his effect—but keeping his camerawork a means to an end, rather than an end in itself.

The majority of the titles in "Nation Builders" were double-exposed against moving backgrounds. Here again the technical skill used was of

an unusually high order. I have seen worse "doubles" in professional films, made with all the resources of studio optical printers. Achieving such results direct in the camera—and an amateur camera at that—is truly noteworthy.

The subject of "Nation Builders"—the history of Australia—is without doubt the most ambitious ever undertaken by any amateur filmer. The fact that the project was successful is in itself a tribute to Sherlock's skill.

Granted that in connection with the 150th anniversary of his nation's founding there were pageants re-enacting historic events and an opportunity for an alert filmster to photograph them: but how many times have not other amateurs scored dismal failures trying the same thing?

Filming such a pageant, it is all too easy to capture only the impression of history being re-enacted. Sherlock's scenes gave a convincing impression of history actually happening. The twentieth century background which must so often have been just beyond the camera-lines was never permitted to intrude upon his eighteenth and nineteenth century action.

Other similar sequences must, as he described in his article of last month, have been specially staged for his film. As far as the results on the screen go, there is nothing to choose between his staged sequences and the pageantry. If anything, the technical details of properties, costuming, and the like in his own scenes are the more carefully done.

Attending to the details of casting, costuming, make-up, locations and the like must have been a huge task—but on the screen only a smooth feeling of reality gives indication of how brilliantly these problems have been mastered.

Volumes might be written about Sherlock's cutting in this film. Paralysis of the shears is a major malady among most of us when we come to editing our own films. "Nation Builders" is a visual sermon on the subject. With perhaps one exception, every sequence told its story fully, yet so economically it leaves the audience always wishing for more. There is the secret of good editing!

And—lest you think the editing was good because of lack of material, remember that the first assembly of this

16mm. epic measured 3,000 feet—the final version but 900!

VIDA PACOIMA

Until Sherlock made it two in a row with "To The Ships of Sidney" followed by "Nation Builders" but one man had captured the grand prize in these contests twice successively. This man, Randolph B. Clardy of the Los Angeles 8mm. Club, again made himself heard from by winning the 1938 Photography Award with an 8mm. color film, "Vida Pacoima," an idyllic visual narration of life on a typical Sunday in a little Mexican village in Southern California.

One can appreciate this film from several viewpoints. It is a triumph of pictorial cinematography. Enlarged frames from any of its scenes would be worthy of hanging in any of the world's great still-camera salons. As in his earlier films, Clardy shows a unique understanding of cinematographic composition. He makes the pictorial elements of each scene play a vital, if unobtrusive, part in telling the story of his film.

His achievement will be appreciated still more by those who have first-hand knowledge of California's Mexican communities. The writer who can fill his pages with picturesque local color and the painter who can ignore that which he does not want seen on his canvas can conceal the squalor of the location, the intrinsic ugliness of wretched, ramshackle huts and shabbily-clad residents.

The man with a camera must, as a rule, picture what his lens sees, often with disillusioning fidelity. Clardy makes his camera see only the picturesque and further invests even the most commonplace scene—a rusty faucet—an abalone shell used as a soap-dish—a complacent, ruminating goat—with beauty.

From the technical viewpoint this achievement is the more remarkable since virtually the entire two-reel production is of the "candid" variety, photographed without staging, and without the knowledge of the actors. Scarcely less than 90 percent of the scenes are telephoto shots, yet such technicalities as focus, exposure, and composition—always difficult in sub-standard telephoto work—are kept in amazingly good control.

"Vida Pacoima" is one of those rare films able to tell its story completely

without titles. The two titles used—the main title and the end title—are however noteworthy examples of unique double-exposure title work.

BEYOND MANILA

Turn a capable cinematographer loose in the Philippines with an adequate supply of Kodachrome and you're almost bound to get a picture worth seeing. W. G. Hahn, of Baguio, Mountain Province, P. I., is evidently a more than ordinarily capable cinematographer, for in a year in which the contest received an unusual number of films worth seeing, and in which more than 60 percent were in Kodachrome, Hahn's entry, "Beyond Manila," was adjudged the best color film, and crowded the chief winner for top honors.

The material laid before Hahn's camera—ranging from the cheerful tillers of the rice paddies through the snappy drill of the Philippine West Point Cadets, to the barbaric "cañao" celebration of villagers less than a generation removed from head-hunting—can only be described as ready-made photographic wealth.

But to record it, as Hahn did, in a symphony of barbaric, yet not clashing colors is a distinct achievement. Long after each viewing, the judges carried vivid mental impressions of bare bronze bodies contrasted against a background of lush greenery and tropical blue skies.

Throughout nearly all the 900 feet of this film Hahn apparently benefited from processing which leaned to the warm side. But his own appreciation of lighting, composition and especially the chromatic significance of exposure, enhanced the subject-matter and made it a real achievement in color, rather than merely an interesting travelogue.

RITUAL OF THE DEAD

The scenario group this year brought out an unusual number of really excellent dramatic films. Cochran's "Phantom of Suicide Gulch" was a delightfully burlesqued "Western," showing a sound grasp of production technique.

William Mehring's "Pagliacci," while premised on an old theme and evidencing minor technical faults, showed in the performance of its principal player one of the finest bits of acting ever seen in an amateur film.

James McCarthy's "Dangerous Border," another "Western," was one of the finest examples of professionally smooth production and scenario writing we've seen in an amateur film.

But towering above these for sheer dramatic force and novelty was Richard Lyford's "Ritual of The Dead," the class winner. Melodramas—even ghost stories—are not new to amateur filming. But Lyford's film surpasses its rivals by virtue of its dramatic virility, the elaborate attention to sets and costuming, and above all by the dual performance of its maker as a callous murderer and as a 3,000-year-old mummy.

In the latter role, especially, Lyford's skill in make-up and impersonation can be compared only to such professionals as Boris Karloff and Lon Chaney.

Save in the double-exposure shots his photographic technique falls at times short of perfection, but in his capacity as director he keeps a tempo and coherence—to say nothing of horrific suspense—seldom seen in non-professional product.

His use of sound in the form of music, narration and several sequences of spoken dialog, all recorded on discs, gives audible evidence of technical skill. It may be mentioned that "Ritual of The Dead"—the first true sound film yet received in these contests—won its way through the preliminary judging solely on its merits as a silent picture.

Only in the finals did it receive the benefit of its recorded sound. While it cannot be gainsaid that the sound made the film more impressive, most of the judges felt that even without this aid "Ritual of The Dead" would have retained the place it ultimately won.

HOT WATER

A year ago, S. A. C. member Earl Cochran, of Colorado Springs, submitted a burlesqued "gay nineties" melodrama to the contest. When it failed to garner a major award he asked for a frank criticism of the film's faults. So well did he take this to heart that one of his dramatic entries this year proved a close contender for top-flight honors in its class.

But during his vacation Cochran branched out from his usual type of dramatic filming and turned his camera on the scene of his vacation—Yellowstone National Park. The resulting film, two reels of exquisite 8mm. Kodachrome, took the highest award in the scenic group, and if my memory is correct made Cochran the first member of the young and growing Society of Amateur Cinematographers to win major honors in the contest.

"Hot Water" won its place because its maker realized that a good scenic film requires more than just beautiful scenery and photography. More even than these, a successful scenic needs tempo, variety—and a pair of active shears. Cochran's film had them all.

With all due respect to the Yellowstone enthusiasts, it must be admitted that for photographic purposes, all geysers bear too great a family resemblance. So do their cousins, the hot springs and mud springs. When you've shown your audience one of each, views of other individual geysers or springs are likely to become repetitious, no matter how excellently photographed.

Cochran realized this, and also realized the boring effect so frequently given by scenics which show long sequences of closely similar "pet shots" of each scenic feature.

So he managed a slightly different treatment of each geyser, hot spring and "paint pot." He kept his sequences short and graphic; wherever more than one or two shots of a thing were required he varied his camera angles and lightings basically, almost completely avoiding repetition.

Best of all, he cut things short and sweet—telling the story and moving quickly to the next point. Many an older hand at cinefilming could benefit from studying Cochran's technique in this respect.

CHICAGO, VACATION CENTER OF THE NATION

The winner of the documentary class award, Theodore D. Shaw, of Chicago's Metro Movie Club, was another competitor who chose an ambitious subject. Compressing the diversified sights of a day in a big city like Chicago into a single reel's footage is a terrific task. Doing so without achieving the stereotyped effect of a succession of picture postals is harder.

But Shaw has done so. He has kept the impression of hustle which is the soul of Chicago, without at any time losing pictorial force. His use of angle shots is notable. In addition, his color is of consistently high quality.

Technical faults there undoubtedly are—most of them probably unavoidable. For example, several scenes could have benefited from the use of a tripod, though it may well have been impractical to use one at the time. Another scene illustrates a pitfall many Kodachromers unsuspectingly fall into: faulty color composition.

In a beautifully composed longshot of a fountain in one of the parks the viewer's eye is drawn forcefully from the center of interest by the too brilliant rendering of a green car parked in the immediate foreground.

A few feet's difference in camera position would have avoided this. Yet it is probable that, to the filmer's eye, intent on details of focus and exposure, that green flivver was not nearly as noticeable as it later proved on the screen.

Shaw's treatment, however, tends in other ways to verify the contention, often expressed here, that the best Kodachrome does not need to follow rule book practice as to lighting. His opening sequence, made along the lake shore and river front at dawn, is a pictorial gem.

Also memorable are scenes made on the shadowed side of State Street, with part of the picture in brilliant afternoon sunlight and part deeply shadowed by the adjacent buildings. Such scenes—often photographically striking in themselves—lend reality to a film in a way no perfect, flat-lighted "rule-book" scenes can.

SANTA VISITS ELAINE

Most hotly contested of any Contest classification this year or any other

POSITIVELY

*The world's
greatest and
best negative
in every respect*

EASTMAN PLUS X PANCHROMATIC

*—is the verdict
of every cameraman
who has used it——*

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year was the home movie award. Long after the rest of the awards were comfortably decided, the judges ran and reran two films, striving to break the apparent unbreakable tie which had "Shadow's Bones" an excellent dog picture made by Frank Gunnell of West New Brighton, N. Y., and "Santa Visits Elaine" made by John Pohl of Cicero, Illinois, in a perfect neck-and-neck photo finish.

"Santa Visits Elaine" won out by virtue of its greater production effort.

Basically the story is simple enough, told in excellent Kodachrome. Just the sort of thing any family could stage—little Elaine absorbs the Santa Claus legend, prepares for Santa's visit by being very good, Santa appears, Elaine enjoys her presents—and "The End" in an excellent title.

But Elaine's papa has in filming this story done a very excellent job of the hardest kind of direction—letting a child (especially one's own!) be really natural on the screen.

In addition to this, Pohl took advantage of a very simple camera trick to give his picture novelty. When Santa appeared, all he needed to do to move furniture out of his way was wave his arms and—presto!—the furniture vanished. In the same way, a few waves of the hand and toy stoves, velocipedes, Christmas tree, and the rest appeared in their places one after the other, in a manner most mystifying to the layman.

To the camerawise the answer is simple. At a command, Santa merely "froze" in position. The camera stopped. The furniture was moved out, and the camera restarted. Appearances of toys were done the same way; and wisely,

after Santa's part in the magic was established in one or two shots, the others were shown without showing the actor. And it's really surprising how a few simple camera tricks will add general interest to the simplest home movie.

JELLO AGAIN

Every now and then a picture crops up of a type which can't well be classified. And such rule breakers are generally so well done that they can't avoid winning honors, even if a special prize has to be created for them. This year it was Carl Anderson's "Jello Again"—150 feet of 16mm. Kodachrome in which animated Jello-cartons, transformed into engaging dwarfs, tell us about the good points of the product and how easy it is to make gelatin desserts.

Perhaps it was a good plug for Jack Benny's favorite dessert—but it was also an amazing piece of film craftsmanship, especially when done by an amateur with amateur equipment.

One hundred fifty feet of film does not sound like much. But when it is

done by animation, painstakingly exposing one single frame at a time, then moving the tiny characters and exposing another, even this short footage becomes colossal.

A foot and a half of good 16mm. animation represents a mighty good full-time day's work when one is working single-handed. Doing it as Anderson must have, in spare time and giving first attention to a job, making an animated film is a task which surpasses even Hollywood's favorite indications of gigantism.

More to the point, Anderson did his work very well. Animating three-dimensional figures, as he did, is infinitely harder than animating cartoon drawings. In drawings, one can compare successive drawings before photographing, to insure that the phases of animation are properly spaced. If a mistake is seen, an eraser and a few penciled lines will usually correct it.

But animating figures, only visual judgment can serve as a guide: the proof of the pudding does not appear until weeks later when, after painstakingly animating upward of 2,000 frames, the completed 50-foot roll comes back from the laboratory. If there are mistakes, the whole back-breaking labor must be done again.

In addition, Anderson has secured some highly interesting effects by the use of colored overall lighting. Serious Kodachromers could well apply this technique to full scale scenes where bizarre effects are wanted. I'd like, for instance, to see one of Richard Lyford's chillers Kodachromed-lit by lamps filtered with green or ghostly blue gelatins!

Scene from M.G.M.'s "Ice Follies of 1939," with Joan Crawford, James Stewart and Lew Ayres. We are promised something sensational in a photographic way in this picture. At the left the crew is shown standing on water-covered ice. Behind the camera on this picture is Oliver Marsh, A.S.C., on the ice sequences, Joseph Ruttenberg, A.S.C., on the dramatic sequences and W. Howard Greene, A.S.C., on the Technicolor sections. The subject is being directed by Reinhold Schunzel. The still was from the camera of Frankie Tanner.



Co-operation the Key to Camera Award

By GEORGE BLAISDELL

CO-OPERATION—the co-operation of director, art director and the cameraman—is the chief prerequisite to the winning of a photographic award. Disregarding any question of ability, individually or collectively, without that co-operatly an award cannot be won.

That was the summing up of Ray Rennahan, A.S.C., at the conclusion of a chat with the editor of this magazine. The Hollywood Reporter's critics' poll for the month of December had named Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C., as joint winners of the photographic award for their work on Twentieth Century-Fox's "Kentucky." The last named is a staff photographer for Technicolor and the former for the production company.

Rennahan had been paying his respects to his associate on the picture—and it was not in any casual, perfunctory or matter of form fashion. It was in all earnestness and sincerity. That estimate, too, had been formed under conditions that severely test relations between two men.

One man had not made any picture other than in color in years. The other was a star in black and white, but this was his first experience with Technicolor—and he was on his home soil, where the Technicolor man was in a manner of speaking a visitor.

Serious Student

But in this instance the Technicolor man was doing the talking. "Ernie is more than a fine photographer," he declared. "He is a serious student. He wants to know. And for every question he has a suggestion—and a good one. No, Sir, that award was fifty-fifty. And it was a pleasure to be tied in with him."

But in speaking of co-operation Rennahan also had paid his respects to Dave Butler, the director of "Kentucky." The former had listed some of the factors

which are "necessary evils" to the cameraman, some of the things that add to the photographic impedimenta—such as scrims, diffusers, overhead butterflyes, painters for lessening hot spots on rocks, etc., in fact, all the devices



Ray Rennahan

designed to smooth over or wipe out the bad spots in a given set-up.

Frequently it happens, the cameraman explained, that the set-up called for by the script is exactly opposite from the one that photographically is indicated. He was speaking of exteriors, of course. By changing the angle a few degrees the sky and the clouds would be more advantageously brought into

the field of the lens and contribute to what might be the making of a gorgeous sequence.

If they were not brought in, if the director chose to follow the script, it might mean the sacrifice of an hour or more time in bringing into play any or all of the devices intended to ameliorate harsh photographic conditions. There might be occasion for the use of many reflectors and there might be a strong wind blowing. That would mean a man on every reflector, and time might be involved in finding them.

"It is many times as hard to photograph a bad set-up as it is a good set-up," said Rennahan, "whereas if you are permitted to change an angle you get excellent results. And so it was with Dave Butler: his pride rode in the picture as it would look on the screen.

Gave Breaks to Camera

"That sentiment overbore any personal feelings he might have in compelling recognition of authority. He gave us all the breaks we asked for in selecting angles favorable to lighting conditions.

"So, too, it is with an art director. There may arise a situation in an interior where a slight shift in set-up will avoid a lot of trouble—and of course result in photographic improvement. Mind you, I am not pleading for the other factors to give away to the photographer just to save time—for the photographer.

"The director and the art director may have their own reasons for maintaining their original position, good and sufficient reasons, and it would be an unreasonable cameraman who would expect them to do otherwise. But the point I desired to make was that in creating 'Kentucky' there was all-around co-operation—between the cameramen and the camera crew and between them and the director and art director."

Varied Experience

Ray Rennahan's early experience was in black and white in the laboratory of the National Film Corporation and from that work to a spot as assistant cameraman. Then as cameraman he worked for Ben Hampton Productions, the studio of which later was taken over by United Artists, and then for Hollywood Studios, now known as General Service, and for Triangle with Harry Aitken.

In 1921 Rennahan was employed by Technicolor, which company had sent a group from Boston to Hollywood to do some research work under studio conditions. The engagement primarily was announced as for three weeks. It was then decided to do a short. The picture was to be "Toll of the Sea," and was designed to be two reels.

It looked so good to the producers that it was expanded into what was released as a five-reeler and a special feature by Metro.

Two cameramen were on the picture.

One of them, incidentally, was John Arnold, A.S.C., later for seven years president of the American Society of Cinematographers, and for many years head of the camera department of M.G.M. Arnold was the first cameraman employed on the subject, while Rennahan developed the negative. When Arnold was called back to Metro Rennahan was shoved into the breach. He finished the film and later developed it and sent it on to Boston.

Grossed \$250,000

Doctor Kalmus, president of Technicolor, in an address last fall before the Society of Motion Picture Engineers stated the picture was manufactured in the original plant in Brookline avenue at a cost of 27 cents a foot. The subject, which was the first Technicolor to be produced by the subtractive method, grossed over \$250,000. The doctor also mentioned that every step of the production work was closely followed by executives in the industry, so marked was the interest.

There was another black and white engagement after the Technicolor laboratory was closed, but it was a short one, however. Just following its unexpected folding there came an even more unexpected wire from Technicolor to come on to New York. There was ready compliance.

From New York he moved on to Boston to work in the Technicolor plant. Following a short stay there Rennahan was ordered to join the company being formed to go to Hollywood, in which town headquarters were established in the National Studios. The first assignment there was the color work at Gaudelupe on "The Ten Commandments."

The first full color subject was "Wanderer of the Wasteland," featuring Billy Dove, Noah Berry and Jack Holt. It was a success on its release in July of 1924, and materially contributed to the rating of the players.

Research on Three Color

Along in 1929, at the time of the shift to sound pictures, Technicolor had the largest camera department of any company in the world. The depression's influence was added to the more unsettled condition produced by the change to sound. While there were not many features being produced there were a goodly number of musicals and other shorts.

While the two-color process was being used in all Technicolor subjects the research department was steadily at work on three colors. Finally the present three-color camera was designed and put into shape for testing. A majority of the first subjects were of cartoons.

Then entered Jock Whitney with his 2200-foot "La Cucuracha," which proved a great success—in fact, possibly aside from "Three Little Pigs," scoring the largest number of runnings, in some

cases six to eight performances a day being recorded.

It was demonstrated that production in three colors was as practical as in two colors with perhaps the only handicap being in color fluctuation and flicker coming from the arcs then in use. This was remedied by new devices provided by Mole-Richardson. Other inventions coming along have contributed still further to establishing Technicolor lighting on a level with black and white.

Perhaps Rennahan's most novel experience in the making of color pictures came when in 1936 he went to England to make "Wings of the Morning" at the Denham Studio. It was the first three-color subject to be filmed in that country. The cameraman was quite alone so far as experience in three color or any color was concerned.

Gorgeous Irish Grass

That applied to the director, to the remainder of the camera crew, the art director, and to the men in the electrical department, who incidentally were acquainted exclusively with incandescent and not with carbon lamps. In fact, Mrs. Kalmus was the only person present on the staff other than the

cameraman who knew color. The picture, too, had been made on a black and white schedule inasmuch as when it was drafted there had been in the studio no one who was acquainted with color.

The picture had been shot for exteriors in England and Ireland. Asked about the greens he had found in Ireland the cameraman waxed enthusiastic.

"Gorgeous," was the enthusiastic response, "and so luminous. Of course, it would be that way because of the amount of moisture and water. Then there is a soft light, due to the prevalent haze. Sometimes the light is too soft.

"How did the picture turn out? Now that you are asking me I shall have to tell you personally I thought it was swell. It proved to be one of the biggest money-makers of the year in England. While it did not do so much in this country it was well received.

"But it all went to prove that after all real co-operation, and I had real co-operation on 'Wings of the Morning,' will overcome handicaps that some might classify as practically insuperable."

Palmer Tells of Experiences Shooting Technicolor

MANY black and white cameramen look with some and others with considerable concern upon any immediate prospect of working on a color picture, on a three color picture to be more precise, and to be quite exact on a Technicolor subject. So mused Ernest Palmer, A.S.C., on a late afternoon in late January. The remark was passed in a casual, matter-of-fact way. There then appeared a noticeable twinkle in those usually serious eyes of his.

"But if their experience parallels mine on 'Kentucky' for Twentieth Century-Fox they should save some of that concern for use on their first assignment on black and white following their ex-

perience in color. That is especially true if their case is like mine, wherein I stepped from 'Kentucky' right back into a black and white subject. But if the jolt seem pretty rough there is one real consolation—it is for but a very brief time. They will find themselves quickly again in their old stride."

Palmer had been telling of his experiences in the making of "Kentucky," his first assignment in Technicolor. As was noted in the story about Ray Rennahan, his Technicolor associate on the picture, there is an unusual situation in the making of a color film for a major company.

To restate that situation, Palmer was

assigned by Twentieth Century-Fox to be responsible for the subject's production, with that responsibility resting on his shoulders. Yet as a matter of fact, outside of his work with Kodachrome and in two-color film he was unacquainted with the mass of details that flow along with a three-color Technicolor subject.

Regular Happening

He realized there hardly was a month or week when a similar situation does not arise in the studios clustered about Hollywood. Naturally after a quarter century behind a professional studio camera he wanted the best product obtainable. To guarantee as close an approach to that end as was possible he decided to go to Technicolor and seek to acquire as much information as was possible before the beginning of shooting.

Palmer chose to go to the tops in the way of authority on the camera work of Technicolor. He sought out George Cave, manager of the camera department, and Robert Riley, his chief aid. First in the Twentieth Century-Fox man's mind was the identity of the man who was to be assigned to the picture by Technicolor. He was asked if Ray Rennahan would be all right with him.

Assurance was prompt and hearty that nothing could be finer. There were many consultations with one or all of the three men, with advice as to what to do and what not to do. As a result there was a much different outlook on Palmer's part when it came time to undertake actual shooting.

Told what Rennahan had said regarding the co-operation that was evident all through the making of the picture Palmer was agreed the remarks were absolutely true. He said if personally he had erred in judgment Rennahan was quick to set him right. And when told Rennahan had praised the co-operation of Director Dave Butler again the reply was in affirmation.

Palmer remarked it had been his good fortune to have photographed perhaps one-half or two-thirds of the pictures Butler had directed and he had found Butler always thought first of the picture and afterward of himself.

Borzage Tips Butler

Palmer recalled that when Fox made "Seventh Heaven" in 1926-7 under the direction of Frank Borzage the part of Goban, the street sweeper, was most competently played by Butler—so competently, in fact, that Borzage during the course of the filming by Palmer had asked of Butler: "Why don't you direct?"

It was shortly after that Butler accepted the suggestion of Borzage. He began directing; and usually Palmer was with him.

Another factor which contributed to the success of "Kentucky" in winning the Hollywood Reporter's critics' poll was the excellence of the process shots by Solly Halperin, A.S.C., and of these there were many. Here again Messrs. Cave and Riley were of inestimable



Ernest Palmer

assistance in giving the benefit of the information Technicolor had acquired in the process field.

Another point Palmer had noted in the way of contrast between black and white work and in the field of color is that where in the former the cameraman in lighting concentrates more on the people on a set and the background more or less is secondary it is different in shooting color.

In the latter case the background must not be secondary. In many instances bringing out the color in the

background, bringing out the beauty of the setting, materially enhances the appearance of the players.

"If you would give your players the advantage of color you must be careful of your lighting," declared Palmer.

The cinematographer's first camera work was with the old Imp company in New York. The Imp, so called because its full name was Independent Moving Pictures, was the company which marked the entrance of Carl Laemmle into the production side of the industry. So also was it the father of Universal.

Making "Ivanhoe" in Wales

Its studio was in Eleventh avenue in New York City. In it many players since well known had their introduction to the motion picture public. With the company that went abroad to make "Ivanhoe," under the direction of Herbert Brenon and the players of which were headed by King Baggot, Palmer accompanied as cameraman. It was one of the first of the American companies to go abroad.

Singularly enough, "Ivanhoe" was not photographed in Scotland but in Wales, in New Chepstowe castle. It was in England that Palmer met George Loane Tucker, for whom later at the Brunton Studios in Hollywood he photographed the famous "Miracle Man."

One of the larger subjects Palmer has made in more recent years was "Cavalcade," directed by Frank Lloyd. This picture, in spite of its size and importance, was made in a comparatively short time, or on a short schedule. This achievement was due, the cameraman explained, to the thoroughness of the director in preparation, to his knowledge of English life and customs and manners, and to his real enthusiasm for the story—an enthusiasm that might be translated into inspiration.

Herein Ernie Palmer undoubtedly has laid down the best analysis of why "Cavalcade" was voted in 1934 by the Academy membership the best production, the best directed picture and the subject that stood highest in the art direction. And it was the period in which the Academy had extended its stated award term to December 31, thereby lengthening that year from the usual twelve to fourteen months.

So it is simpler to win as it must be more difficult to lose when the director is a hound for preparation, for being before the start all set in his own mind what every sequence shall contain and the order in which it shall be presented; to know the background of the story as well as the traditions and feelings of the men and women who people it; to inspire his crew and players with his own enthusiasm.

Willoughby's, 110 West Thirty-second street, New York, has been appointed distributors for the Miller Fold-O-Flector Junior and the Iras adjustable lens shade and filter holder.

Tony Gaudio Honored

WORD has been received in Los Angeles by the Italian Consulate that Tony Gaudio, A.S.C., has been named by King Victor Emmanuel III a cavaliere of the Crown of Italy. The cameraman has been in the United States since 1908, and has in the intervening years photographed many of the well known American players.

Two years ago Gaudio was awarded photographic honors by the Academy for work with his camera on "Anthony Adverse." Just to indicate that in his riper years he is still among the tops it may be said that in the Hollywood Critics' poll for December releases he was awarded the highest vote among the straight black and white photographers for his camera work on "Dawn Patrol." There were two pictures that came in ahead of him, but they were both in Technicolor. The Academy restricts its awards to black and white subjects.

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LIGHTING THE NEW FAST FILMS

FAST FILM is unquestionably the technical topic of the day. The recent introduction of two sensation-ally faster production-type emulsions—Agfa's "Supreme" and Eastman's "Plus X"—offered cinematographers a revolutionarily improved material upon which to work. At the same time, the tremendously increased speed of the new films—fully twice that of previous films—gave rise to new problems in putting these emulsions to practical use.

A basically important aspect of the problem is lighting. The new emulsions require far less light to give a normal exposure. How, then, shall this reduction in exposure be accomplished? In theory, several methods present themselves: which is the most practical? In addition, what detail differences in lighting technique for the old and new films may exist to trap the unwary newcomer to plus-speed filming?

Since the new films are only just finding their way into general use, there are many who have not as yet had an opportunity to find for themselves the answers to all of these questions. From among those members of the A.S.C. who have actually used the new films on production the following opinions have been gathered in the hope that they will in some measure make things easier for others, here and elsewhere, who are just beginning their personal use of these newest cinematerials.

"Cafe Society" First on "Plus X"

TEDDY TETZLAFF, A.S.C., is understood to hold the honor of being the first to expose the new Eastman product on actual production, using it in filming Paramount's "Cafe Society." He says, "Changing to Plus X I have simply reduced the average intensity of my lighting between 35 and 40 per cent." He continued:

This is a relatively simple matter. Actually, the electrical department did much of it for me by fitting smaller globes in my lamps, replacing the usual 2000-watt globes in 18s and Juniors with

1000-watt ones, and in the larger units replacing 5000-watt globes with 2-kws.

Some of the smaller units—"broads," "rifles" and the like—cannot well be fitted with smaller globes as they are designed expressly for the 1000-watt PS52 globe. (A 750-watt PS52 globe of the same dimensions is now available.—ED.) These lamps are therefore either used with more diffusion or moved farther back.

The big thing to remember in changing films and making such a reduction in lighting is that in changing the intensity of the lighting, the balance must not be changed. Don't, for instance, make all the reduction in your highlight levels, or in your shadow levels; if you do, the balance as a whole will be thrown out of key.

The results will naturally not be good photography, and you will find yourself blaming the film instead of yourself for what is really a mistake in lighting.

For the rest, don't become too over-awed at the changed speed of the new film. Take it in your stride! If, as is sometimes necessary, you have to change films with too little opportunity for making advance tests, change your lighting gradually, making the obvious reductions at first, keeping your balance normal, and let further changes come later, as you get better accustomed to the film and the new, low illumination levels.

Watch Highlights

WILLIAM MELLOR, A.S.C.: I've had the experience of using both the Eastman and Agfa fast films and my experience agrees with Tetzlaff's. The most important thing to keep in mind when changing from conventional to fast film is the importance of a normal lighting balance. Keep that, and exploring the possibilities of the new film is a real pleasure.

Using ordinary film we know there must be a definite relationship between the most intense highlight and the deepest shadow. With the new fast films this is more important than ever. There is apparently less latitude to protect you.

The film technical experts tell me this is due to a combination of a slightly sharper break in the shoulder of the H. & D. curve and the changed printing quality of the far finer grained negative.

In practical terms, it means—watch your highlights! With the older film highlights could often be lit quite a bit too "hot" without seriously affecting the quality of the print. With the new film, let them grow just a little bit too "hot" and they "burn up." In the old days there used to be a saying, "Expose for the shadows, and the highlights will take care of themselves."

With the new film, we've got to turn that statement around. Today we must watch our highlights—and the shadows can pretty well take care of themselves.

Aside from this, lighting is still lighting, even if done in a lower key. In general, use smaller globes than usual. In the floor units, either use smaller units or, if you prefer, move standard units farther back and diffuse a bit more. Then forget about film speeds and reduced lighting levels, and go ahead and balance these elements in your accustomed way."

Lighting With "Baby Juniors"

ARTHUR EDESON, A.S.C.: I've just finished a picture on Plus X. The new film made me work harder than ever before—but the results on the screen are worth it.

The whole thing can be summed up in a nutshell by saying that the secret of using the new film is keeping your lighting balance normal even though you have less light to balance.

I've reduced my lighting level largely by using smaller globes and smaller lamps. So far it seems impractical to use fewer lamps, for lighting balance depends on the angles of light as well as intensity. And we've still got to keep our established number of lighting angles for any scene, whether or not a high degree of illumination comes from each source.

Personally, I've been lighting my sets largely with Baby Juniors and baby spots modernized with Fresnel lenses. The speed of the new film is such that it is uncanny what can be done with these tiny 500-watt units. And of course where larger units are necessary, Juniors and 18s fitted with 1000-watt globes instead of the usual 2-kw ones do the trick.

If you can just remember to keep your lighting normally balanced, regardless of the reduction in overall intensity, you'll find that the increased speed of Plus X is only part of the story. The real thing is improved photographic quality in every respect. That, rather than mere speed, is what makes the new film such a tremendous improvement!

Easier to Separate Planes

L. WILLIAM O'CONNELL, A.S.C.: Lighting is easier with the new film than with the old. The film itself now does half the work of separating the different planes of your picture. People stand out more clearly from their backgrounds. Even separating the planes in close shots

—the little matter of keeping a coat-lapel from blending into the background of the garment—of giving an illusion of depth to faces and figures—is easier with the new film.

Far less backlighting is needed. The film itself does half the work backlighting used to do. As a result, we get more natural-looking pictures.

GAETANO GAUDIO, A.S.C.: It was one of the luckiest things that ever happened for me that Plus X came out when it did. I was just about to start "Juarez"—one of Warner Brothers' biggest films. It seemed just made for the new film—highly pictorial, and all through it called for dramatic, low-key lighting effects. I had just enough time to test the new film adequately and then step right into production with it.

I'm getting more beautiful results with this new film than I ever got before on any film. I don't think I ever received so many compliments on "rushes" before.

Lighting the new film, you've got to be sure of balance—but you can do what all of us have for years wanted to do: you can come down to almost natural lighting levels. And in low-key shadows where on the old film you saw just a heavy mass of black graininess, now you see a real shadow.

A good meter, like the General Electric, is a big help in keeping your lighting balanced. On most shots, I keep my key light at about 50 foot-candles. On the old film, I'd have had to use 150 or 200!

New Fluorescent Light

This means smaller, lower-powered units. With the old film, I'd use, say, a Junior for my keylight, and fill in with Baby Juniors. Now I use Baby Juniors for my keylight! Those lamps and the new film were just made for each other! In fact, the smooth beams of all those Fresnel-lensed Solarspots are ideal for the new film, because they don't give you any "hot spots" or shadows to worry about.

The electrical department has rigged my sets with the usual 18s and Juniors, all equipped with half-sized globes for the new film. But even in the long shots I haven't had to use but about a third of the units available. In the closer shots I'll have perhaps one or two overhead spots in use, and do the rest of my lighting with Baby Juniors and heavily-silked broads on the stage floor. On low-roofed stages I've had to turn out the ceiling work lamps when I was shooting.

Using these smaller units its easier to put the light just where you want it. Doing it with baby spotlights you can get your lamps into places where they'll do the most good—even in cramped quarters where you could never put a bigger lamp.

We've developed a marvelous new lamp for giving a soft front-lighting on close-ups of women. It is a fluorescent-tube lamp that looks something like the old Cooper-Hewitt tubes we used years ago,

but much smaller. It employs a new fluorescent mercury vapor tube developed by General Electric, intended originally for house lighting. It gives a very soft blue-white light.

Used for a front light for faces it is wonderful how it irons out wrinkles. The tube is big enough—about two feet long and two tubes are used in each lamp—so that the lighting seems to come from all directions—front, top, sides and underneath—giving a perfect, shadowless foundation light.

These tubes couldn't be used with the old film. They are rated at only 20 watts: they don't give enough light to pick up on ordinary emulsion! But they are perfect for the new fast films.

Build From the Shadows

THEODOR SPARKUHL, A.S.C. (just commencing "Beau Geste"): Since I'm only beginning my first picture on the new film I don't feel I can say much about its use.

But it seems logical to me that it may change our method of lighting back to something like those we used some years ago. That is, first lay down a foundation of soft general lighting, and build up the halftones and highlights from this rather than the other way around.

VICTOR MILNER, A.S.C.: The new fast film is without doubt the most important photographic advancement in a long time. The cinematographer has to be far more alert using the new film—in making "Union Pacific" I've worked harder than ever before in my life—but the results on the screen, in terms of better, more expressive photography, are worth it.

But I think that if we limit our thinking about the new film to the relatively simple fact that we can use less light we are missing half the possibilities of the new emulsions.

Flexible Technique

We've got a film which needs less light for an exposure. Using smaller globes to put less light on the set is only one way of putting this quality to work.

With the ordinary film we developed a technique of altering the key of our lighting to match the dramatic mood of the action. With the new film we can add to this idea, making the camera more expressive than ever.

For instance, the other day I had a scene in an old-time western saloon and dance hall. It was a big set, bright and full of picturesque action.

Using the new film, that scene could have been lit with half the light I actually used. But instead, I used what would be about a normal lighting for the old film—and compensated by stopping down my lens. That way I gained in depth and crispness in a way that enhanced the mood of the shot.

At other times, I felt it best to lower my lighting level and keep my lens rather well open. This gave me softness and a naturalness better suited to that particular action.

And when the action calls for such things the possibilities of the new film for effect lightings seem endless.

For this reason I feel that any attempt to set down rigid rules for lighting the new film is wrong. It can close our eyes to opportunities the new film offers for making camerawork more expressive.

We've always prided ourselves on the thought that cinematography is as expressive a medium as a great orchestra. This new film widens that expressiveness. It makes it possible for us to run the scale between extremely soft, naturalesque low-level lightings (50 foot-candles or less), shot with full lens apertures, to the opposite extreme of higher-level illumination (perhaps as high as 200 foot-candles or more) exposed at greatly reduced apertures for a new and greater depth and crispness.

But we must keep ourselves mentally free to use these opportunities to the full, playing each scene visually for its best dramatic values.

50 Foot-Candle Level

CHARLES ROSHER, A.S.C. (working on a large, stage-built exterior set for Warners' "Hell's Kitchen"): Just look around you, if you think this new film isn't fast. This is lit for a full daylight effect: but the highest light intensity is only 50 foot-candles by my G.E. meter. It comes from that H. I. Arc spotlight over there—nearly 100 feet away. With the old film it wouldn't pick up. With Plus X it will do so strongly. The rest of the lighting graduates downward from this 50 foot-candle level.

Working at these low levels, a meter is a tremendous help in checking the fine distinctions in illumination between highlights, halftones and shadows.

I've noticed one little detail which should be watched in using Plus X. Greater care must be used on "goboing off" lamps. If they are not shielded carefully, stray rays which in the past could be ignored will have a visible effect on the new, faster film.

For instance, you see that "sky pan" illuminating the backing at the side, 35 or 40 feet from the action? Light escaping around its reflector is definitely helping illuminate the players down here. On small sets, the lighting units used must be much more selective, and better shielded, than before.

The increased speed of the film must be watched if you are working with people with ruddy or florid complexions. It accentuates those red tones. Grant Mitchell, who is playing in this film, has worked successfully without make-up in many films I've photographed. But in this one, due to the way the new film accentuates his natural coloring, he is wearing make-up for the first time.

All of these things are of course details. But speaking more broadly, this new film, if one is alert and utilizes not only the film but the improvements available in modern meters, lighting equipment and so forth, opens up the way to a lasting improvement in cinematography.

EDITING ODD FOOTAGE

By Ormal I. Sprungman

H EAVEN forbid that this person should ever be found filming among the angels, yet this—believe it or not—is the inside story of “Hellroarin’ Heaven.” This is how it was conceived from the vaguest idea, grew out of a spasm of odds and ends filming, and finally blossomed forth as an allegedly pretty 400-foot 16mm. Kodachrome reel, synchronized with lump-in-throat music.

Perhaps a play-by-play review of the film from start to finish might reveal possibilities for re-vamping or re-editing odd footage from your personal library into longer features holding much greater audience appeal.

In fact, if you have been led to believe that continuity is everything in home movies, you may be surprised to learn of the miraculous changes which may be wrought over a splicing block.

“Hellroarin’ Heaven” was no less than two years in the offing. This does not mean that it required this lengthy interval for the actual filming and editing. But it did take every last minute for the writer to decide what this film finally was going to turn out to be. Even at that, this thing isn’t final. Any minute now I might swing off on another tangent.

THAT Sort of Film

One member of the audience attending a preview of the film couldn’t quite decide whether I’d been dropped when I was a baby or whether I had just plumb bumped my head against a wall. It is *that* sort of film. It is probably the most serious outdoor thing I have ever attempted.

An ardent admirer of Joyce Kilmer’s poem “Trees” and the tune of similar name, I first fumbled with the idea of synchronizing color footage of trees and clouds to this mellow music. Selecting a spring day when the sky was billowing with cloud puffs, I tried framing scenics under droopy branches or shooting vertically through tree tops.

I caught the flutter of a lone oak leaf against a cloud background. Even the rapid movement of the clouds themselves was indeed fascinating.

Although I had my tree-and-cloud footage well in hand, somehow I never did get around to purchasing the necessary recording.

Then hell broke loose in the upper Mississippi, and floodwaters started sprawling all over the landscape. North of here water was running eight feet over our much-prized smallmouth bass fishing holes. Logs and other debris were coasting downstream over the muddiest of rivers.



Photographs by the writer (and his 16mm. frame enlargements from “Hellroarin’ Heaven,” using Eastman 16mm. frame enlarger).

It was a busy week for filming. I took colored long shots of the swollen waters, closeups of choked channels and midget dribblings.

Realism Indeed

The lapping of water against half-submerged tree trunks, near shots of weed tangles in mid-stream, and long shots of the silvery surface through sagging willows added realism to the river reel.

When I sat down to edit this footage I hit upon a better idea. Why not cut up the river scenes, splice in a sprinkling of the salvaged cloud-and-tree stuff, and turn out a new film synchronized to “Ol’ Man River,” or one of the other “Show Boat” recordings?

For hours I listened to different recordings. One had too much vocal; another was weak instrumentally. And so the river footage also was temporarily shelved.

Then one day last summer my car wheels were pointed toward a setting sun, and when I finally came to a stop, a thousand miles distant, I was in western Montana, and there was a pack trip in the offing. No ordinary pack trip, this. We took five horses, no guides.

The two of us had enough grub on our five-day jaunt to last us a month. We struck out for Hellroarin’ country, one of Montana’s wildest and most beautiful sections of timber, located up in Yellowstone’s attic.

When we came to rest, we were raft-drifting and fly-casting a mountain lake lousy with trout.

Mare Hogs Camera


Anybody who has ever wet a fly knows how hard it is to put aside the rod and pick up the movie camera when the whoppers are biting to right and left. Any pack-tripper who has ever climbed aboard a horse knows the difficulty of either shooting movies from atop the critter or dismounting or riding far enough ahead to take shots of the approaching pack train.

On our trip we had an old mare who was so camera conscious she would freeze in her tracks and hold up the whole parade whenever I unpackaged my camera.

Consequently, much of my shooting was reduced to more or less experimental scenes which fit the continuity, featuring completely backlighted views, close-ups showing the play of rippled water reflected by sunlight on the face of my fellow angler, long



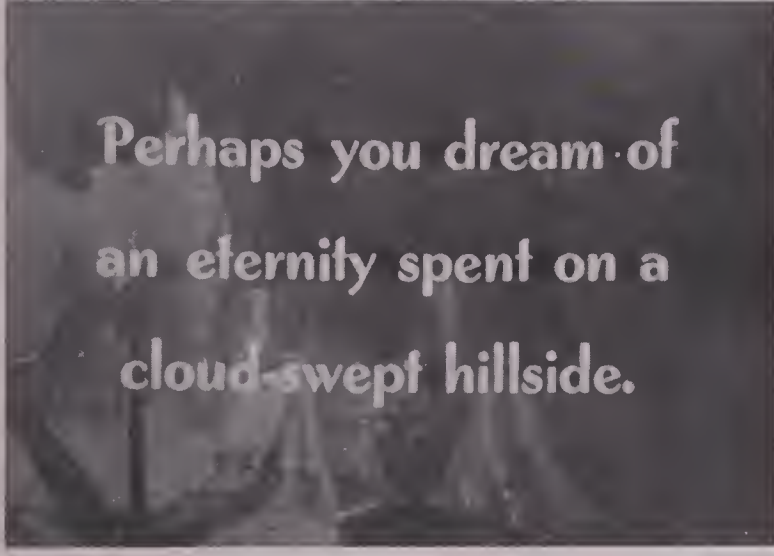
Hellroarin'
Heaven



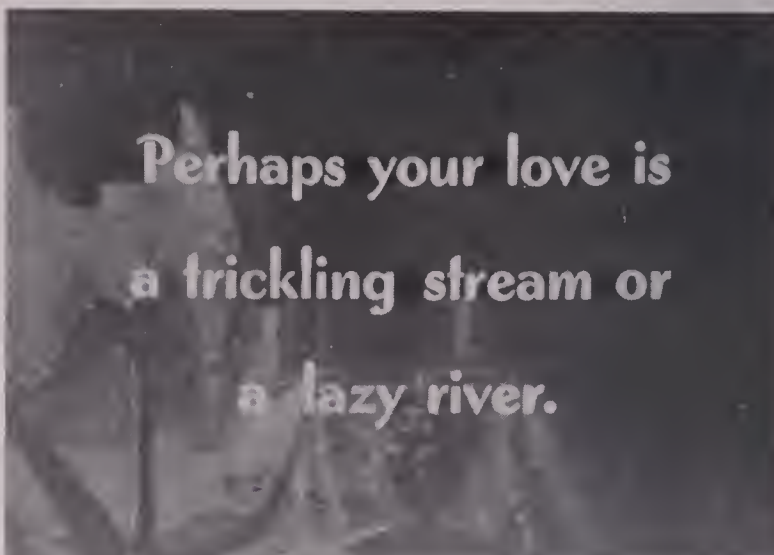
Painted with
Kodachrome by
Ormal I. Sprungman
Minneapolis

- Foreword -

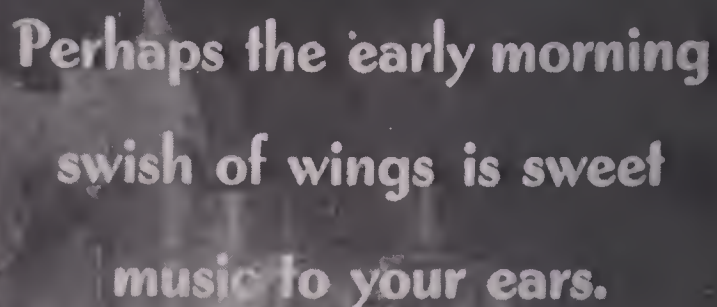
Every man dreams of some
far-away Utopia, bliss he
may never know. Yet the
dream is his contentment,
his heaven on earth, his
priceless Eden.



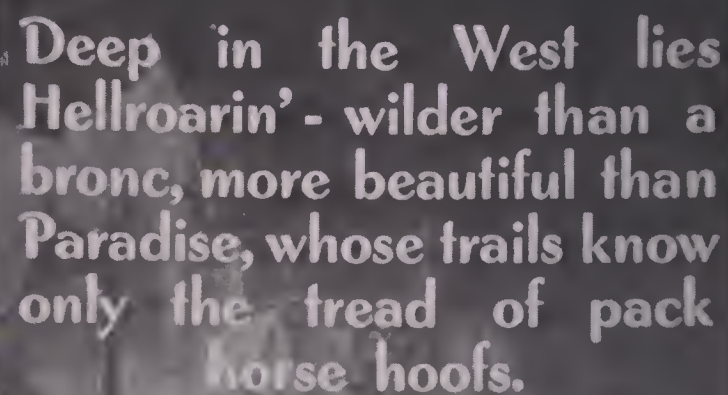
Perhaps you dream of
an eternity spent on a
cloud-swept hillside.




Perhaps your love is
a trickling stream or
a lazy river.



Perhaps the early morning
swish of wings is sweet
music to your ears.



Deep in the West lies
Hellroarin' - wilder than a
bronc, more beautiful than
Paradise, whose trails know
only the tread of pack
horse hoofs.



In this primitive
Hellroarin' heaven, here
lies my dream.



scenes from his "Hellroarin' Heaven" (See Page 71)

shots of our pack train reflected in the water itself. It was a nice idea, but 200 feet of color film covering fishing and packing is just a teaser for any sportsman audience. So the western footage lay dormant.

In came scatter-gun season, with ducks breezing down out of the north to provide new action. One day, while hiding under some willow shoots on a private duck pass owned by Bill Everett, Minneapolis Cine Club president, and wondering why redheads and canvasbacks were so infernally immune to number four shot even at close range, an idea struck me for tying all these scenes to a common thread. I was so excited, I missed the next dozen birds. I could hardly wait to lay hands on my cold storage reels.

Film Now Complete

I did manage to shoot a duck sequence, however, showing a hunter silhouetted before a red sky in early morning, and a ground view closeup of the hunter calling birds from the blind. As he rises to point his blunderbuss skyward as a flock goes over, a singleton falls. A dog plops out in the water and retrieves the bird (this scene was staged), and so endeth the sequence.

Before me now lay a reel on trees and clouds, another on the river, a third on pack-tripping, and a fourth on ducks.

Suppose we place the pack-tripping last and the ducks in third position. Since we like the Hellroarin' country, we shall call the piece "Hellroarin' Heaven," building up to a climax by properly manipulating the other scenes with the needed titles.

After the main title and credit line, I wanted an introduction or foreword, something to tie the loose ends together, something moody that might inspire or impress. After hours of perspiring thought here is what came out of it:

—Foreword—

Every man dreams of some far-away Utopia, bliss he may never know. Yet the dream is his contentment, his heaven on earth, his priceless Eden.

(Dissolve)

Perhaps you dream of an eternity spent on a cloud-swept hillside.

(Fadeout)

Enter, cloud and tree footage. When this is completed turn to the next title:

Perhaps your love is a trickling stream or a lazy river.

Cut in all river footage, then—

Perhaps the early morning swish of wings is sweet music to your ears.

Now for the duck scenes. Up to this point we have staged a build-up to prepare our audience for the supposedly finer footage which is to follow. So we introduce our next title—and all titles are double-exposed against a harp background—with an appropriately long fadein:

Deep in the West lies Hellroarin'—wilder than a bronc, more beautiful than Paradise, whose trails know only the tread of packhorse hoofs.

Following the fade, our first shot is a long view of the mountain pass over which we shall ride, then a slow panoram down to the moving pack train. This is interspersed with close-ups of movement and pauses along the trail.

Instead of taking just a head-on closeup of a trail sign to show mileage and direction I tried an angle shot with my fellow-rider completely obliterating the sign with his silhouette as he passes before the camera.

After a down-the-trail shot of the fish-swamped lake I swung to a close-up of a fly box being opened and a lure removed. Next, a framed scene of the lake itself, panoraming slowly down to a medium shot of a log raft which my partner is pushing out from shore.

Then follows fish action aplenty, and finally several specimens are cleaned for the evening meal. This leads naturally right into the fry pan close-up of the browning steaks, but no scenes of devouring the meal are shown.

Next, the horses are saddled and the jaunt continues deeper into the woods. These scenes are staged. Another title is needed here to prove our fondness for the country and to carry out the dream motif:

In this primitive Hellroarin' heaven, here lies my dream.

The closing scenes show our pack train fording a stream. As the horses continue along water edge, pausing only to fetch a sip, the camera records the upside-down movement in the calm reflection, and then fades out.

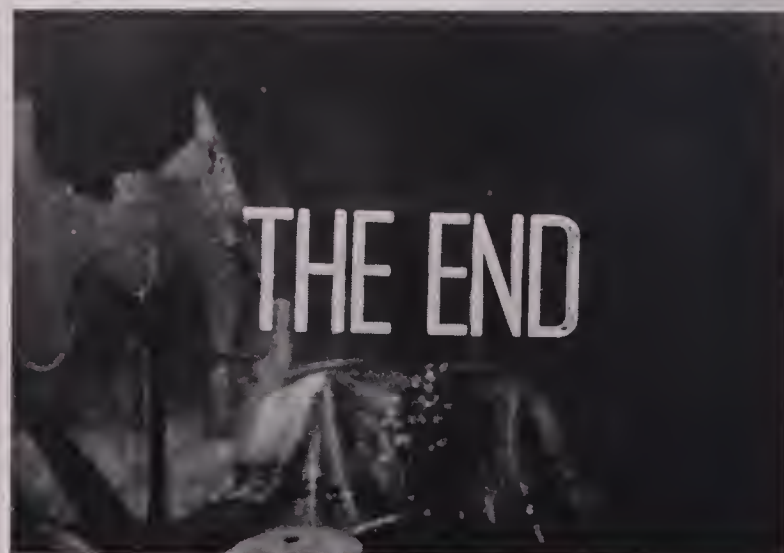
With the modern trend in moviemaking these color films needed music—sad, slow-tempo stuff in keeping with the theme. Organ music is always tops for color movies. With vibraphone and guitar, the combination is unbeatable.

The Paradise Island Trio, recording for Decca, coincidentally had produced exactly the discs required. With the screening of the trees scenics, "Paradise" is played. "Drowsy Waters" fits the mood of the river footage, while "My Isle of Golden Dreams" and "Springtime in the Rockies" provide the sweet-sounding finale.

If I wish to add sound effects I find that the Speedy-Q and Gennett Record people of Los Angeles, Calif., sell ten-inch discs of natural wind sounds, babbling brooks, quacking ducks, crackling flames, frying bacon, and horses hoofs over gravel.

In fact, with everything in perfect synchronization, it is possible to produce a screening even more impressive than the original scene photographed.

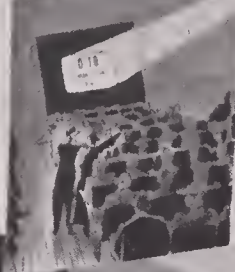
Perhaps you have odd footage lying around which might easily be tied up into a neat, inviting cine bundle. All you need is a good strong continuity thread to make the package secure.



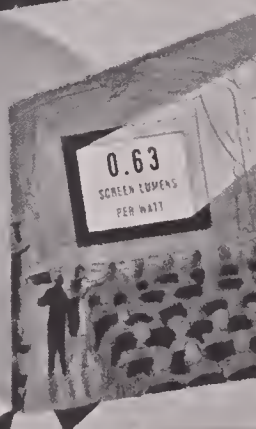
A REVOLUTION — in Theater Projection 1918

National Carbon Company, Inc. has revolutionized motion picture projection through steady improvement in projection light sources.

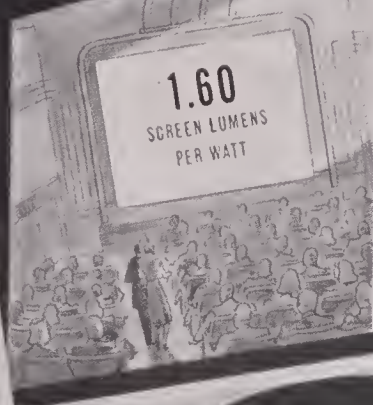
You cannot afford to retain 1928 standards of theater illumination. Ask your dealer about the economy, low cost and box office value of Simplified High Intensity projection.



"National" Low Intensity Carbons for Condenser Type Low Intensity Lamps
0.10 screen lumens per watt. Theaters very dark. Patrons groped blindly for seats. Definitely yellow light.



1928
"National" SRA Carbons for Reflector Type Low Intensity Lamps
0.63 screen lumens per watt. Theaters still too dark for safety and comfort. Whiter light but yellowish tint.



1938
Simplified High Intensity projection with "National" "Suprex" Carbons
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The studio, as well as the theater, profits from the revolutionary improvement in motion picture projection over the past two decades. The studio can profit further by adopting the new carbon arc lamps developed especially for motion picture production.

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PHOTOPHONE SOUNDHEADS PROVIDE STUDIO PRESENCE

SIX Photophone sound reproducing systems, which incorporate more than a score of new technical advances, have been announced by Harry L. Sommerer, RCA Photophone head. Tone quality that imparts "studio presence" to the reproduction, greater convenience of operation and streamlined functional design are some of the improvements ascribed to the new equipments, which are the culmination of over a decade of research and development in the RCA laboratories.

The new equipments have been designed to fit the sound requirements of every size and type of theatre, ranging from the super-theatres exemplified by the Radio City Music Hall down to the smallest neighborhood house.

To Photophone's famed Rotary Stabilizer has been added a shockproof drive mechanism; together they insure perfectly constant film speed past the reproducing photoelectric cell to eliminate any possibility of distortion from this source.

A double exciter lamp unit provides an emergency spare lamp for instantaneous changeover in case of failure. The optical focuser on the new equipments are securely locked into place after adjustment. Gear failures are virtually eliminated by an integral gear box assembly built into the new soundheads which keeps gears running in an oil bath.

Strides in Design

All housings for the soundhead, amplifier racks and volume control box have been completely restyled by John Vassos and Lynn Brodton, famous industrial designers, who have achieved a new functional streamlining which not only improves the appearance of the equipments tremendously but assures the utmost utility of every component.

"The design of sound equipment has made tremendous strides since the early talkie days, when reproducers cost tens of thousands of dollars," Mr. Sommerer said. "Vastly more efficient reproducing equipment is now available at a fraction of former costs.

"In the interim, too, the theatre exhibitor has learned to evaluate the im-

portance of good, realistic sound in getting the most entertainment value out of a picture. He has also come to appreciate the economy of sound equipment that gives uninterrupted day-to-day service.

"The quality built into the new Photophone sound equipments is of two kinds: The kind that is immediately apparent to the ear and the eye through outstanding performance and appearance; and the kind that is built into the apparatus to give dependable, trouble-free service over its full life."

Film Speed Constancy

For theatres of up to 800 seats, Model 138, is \$1375; for theatres of up to 1200 seats, Model 139, is \$1650; for up to 1800 seats, Model 140, is \$2250; for up to 2600 seats, Model 141, is \$2850; for up to 3800 seats, Model 142, is \$3375; and for houses up to 7000 seats, Model 143, is \$3800.

"The shock-proof drive for the constant-speed sprocket shaft is the most important improvement to come out of the Photophone laboratory since the stabilizer unit itself," said Mr. Sommerer. "It makes it impossible for gear-backlash to be transmitted to the constant-speed film sprocket, thus insuring absolute constancy of film speed."

The shock-proof drive mechanism is mounted in the new type of integral gear box in such a way that it can be removed easily as a unit for servicing or replacement. The sound bracket assembly, including the optical system and the drum shaft, can also be removed in one piece.

An improvement which will meet with the approval of every projectionist and theatre owner is the double exciter lamp. If one light fails, it is only necessary to turn the socket around, and the spare bulb goes into operation immediately, while the burned out one can be renewed as the show continues.

Mr. Sommerer pointed to the new self-locking focal adjustment mechanism as a long step toward improved operation. A light shield in front of the optical system avoids "96-cycle" hum resulting from modulation of the sprocket holes in the film. A new type of pre-focused exciter lamp bulb has been

utilized, doing away with the necessity for adjusting the lamp laterally.

Smartly Styled Housing

The new soundhead has a smartly styled housing over the electric driving motor, giving the equipment a clean-cut appearance never before achieved. This cover, like all the others on each piece of equipment, is easily removed for inspection or servicing.

On the right side of the soundhead is a glass window which permits a view of the interior. It is illuminated
(Continued on Page 86)

1—The famous RCA Rotary Stabilizer which is an integral part of every RCA Photophone soundhead. Its efficiency has been increased still further in the six new Photophone sound reproducing systems, by the use of a new shock-proof driving mechanism, which isolates the stabilizer itself from all vibration or gear back-lash. Film flows smoothly and steadily past the light source, insuring faithful reproduction.

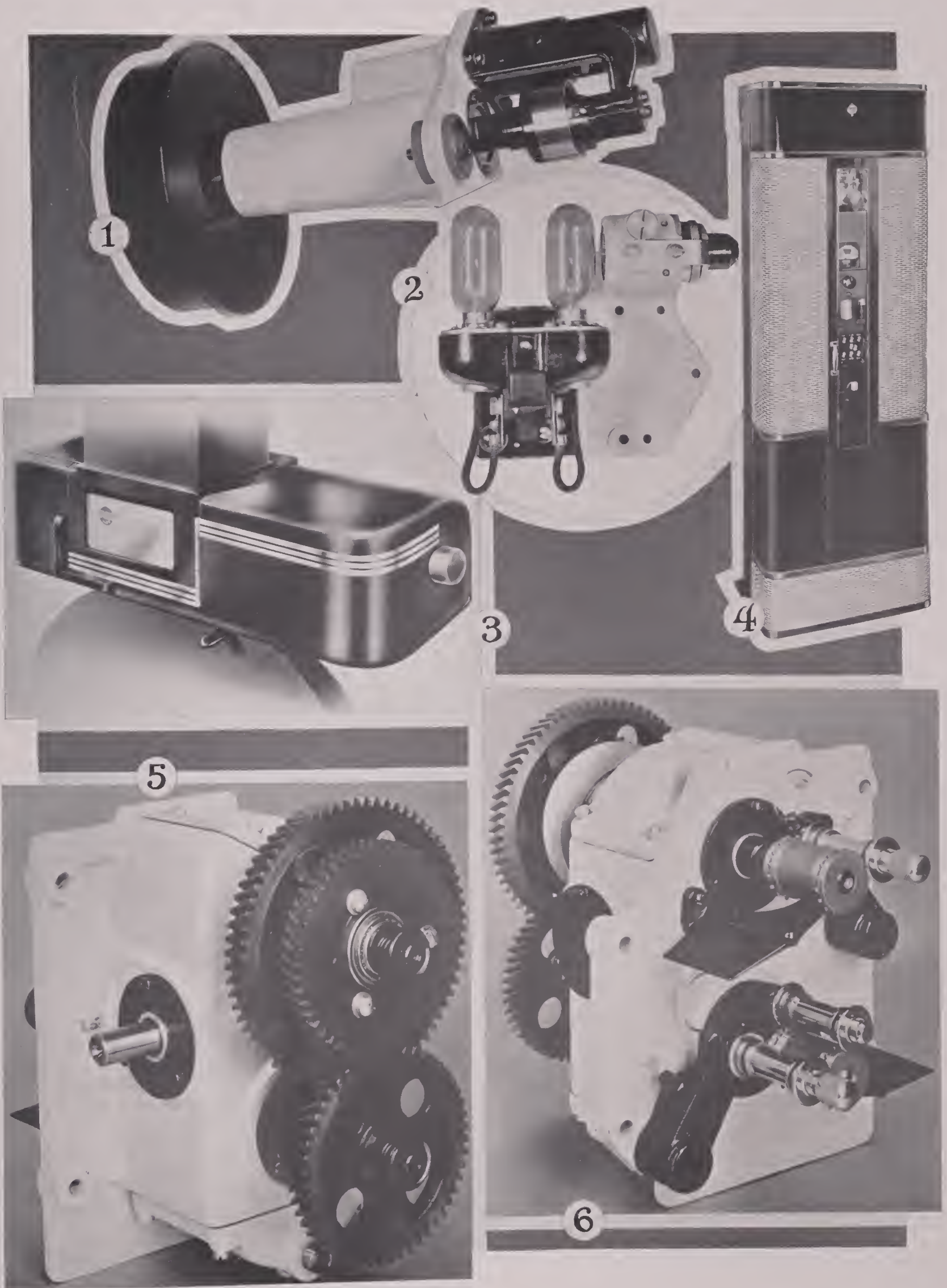
2—Two new developments in RCA Photophone's soundhead are shown here. In the front is the double exciter lamp socket, which makes a spare lamp immediately available and ready for use by simply reversing the socket. Also shown is the mechanism for focusing and locking the optical system (right). The lens can be focused quickly and accurately by the operator, and then locked securely in place.

3—The new "streamlined" RCA Photophone soundhead for motion picture projectors incorporates more than a score of new advances. It was styled by John Vassos and Lynn Brodton, eminent industrial artists. The new soundhead imparts "studio presence" to the reproduction and is more convenient to operate. A shockproof drive for the famed RCA Rotary Stabilizer and a double-switch exciter lamp device are among the improvements introduced.

4—RCA Photophone's new amplifier rack was designed by John Vassos and Lynn Brodton, famous industrial artists, for both improved appearance and convenience. The cabinet is trim and compact, and provides easy access to all parts of the amplifiers for check or repairs.

5—This is the mechanism which provides the new shock-proof drive for the RCA Rotary Stabilizer in the new Photophone soundhead. Isolation of the constant-speed sprocket shaft and drive gear from the gear train and driving apparatus prevents gear back-lash from being transmitted to the constant speed sprocket. Absolute constancy of film speed is assured.

6—The new integral gear box assembly which keeps gears in the new RCA Photophone soundhead running in an oil bath and makes gear failures virtually impossible. An oil indicator tells the operator when additional lubricant is required.



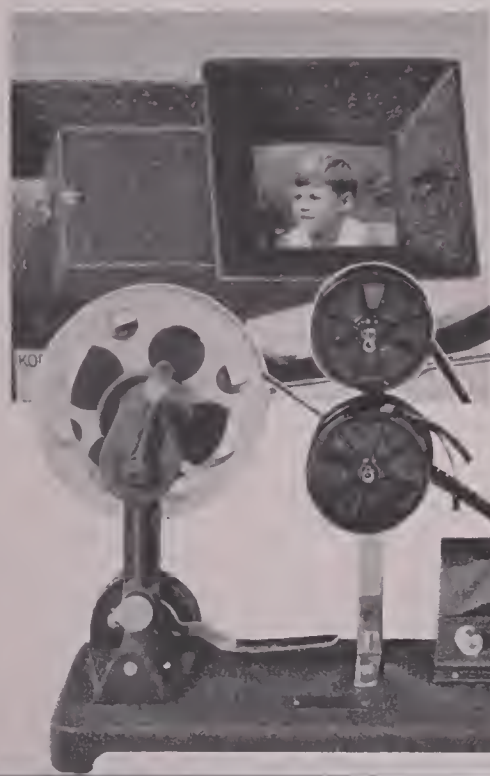
A COUPLE OF "MUSTS" FOR YOUR MOVIE EQUIPMENT

IN any roll of your movie films you'll find many a "frame" that is a good picture in itself. It may be a scenic, or it may be a close-up of some such important person as The Baby—or the baby's doting family. With the Kodak 16 mm. Enlarger it is a swift and simple matter to make an enlarged negative, about $2\frac{3}{8}$ " by $3\frac{1}{4}$ ", of any desired 16 mm. movie frame. Eight such enlarged negatives can be made on a single roll of 616 Kodak Film. And from those films, prints and enlargements can be had as you please. The Enlarger works, by the way, equally well for black-and-white results with either Kodachrome or regular 16 mm. film. Price, \$15.

Another important Ciné-Kodak accessory is the Kodascope Movie Viewer, an ingenious little editing device that shows you your films in action. Added to your film editing equipment, it gives you instant check not only on photographic quality, but on the flow of action in your films. The enlarged film image is shown on a hooded ground glass, $1" \times 1\frac{3}{8}"$ in size. Incorporated in the Movie Viewer is a spring-punch for edge-notching the film, as a means of identifying future placement of titles, etc. The price of the Kodascope Movie Viewer is \$20, in either the 8 mm. or the 16 mm. model.

THE Kodak 16 mm. Enlarger in use. Right, above, the to-be-enlarged movie frame is clamped into place between a diffuser and the special 13 mm. lens in the Enlarger. Then the exposure is made, with the Enlarger held close to a No. 1 Photoflood. From the resulting negative, prints and enlargements can be made as desired.

THE Kodascope Movie Viewer is shown, below, as used in conjunction with the Kodascope Master Rewind. With the Viewer are three other items of interest—the Kodascope Editing Bracket (\$1.35), the Universal Splicer (\$12.50), and the new 1600-ft. film reel (\$4.50). The Master Rewind itself is priced at \$30. At the left is the viewing hood of the Viewer in which the film image is seen brilliantly and in action.



EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

"The Girl Next Door"

By CINEMA-MAKER

—CAST—

Tom Davis.....Aged 16 years
Mrs. Davis.....His Mother
Betty Bennett.....

A well-developed young woman, also 16
Mrs. Bailey.....

Her aunt, Davis' next-door friend
Mr. Bailey.....Her husband, well-to-do
Properties—An automobile, a lawn-rake,
two market baskets, empty milk
bottles, a few groceries, some school
books, some baggage.

Scene 1 (Medium). Davis' living room. A large day-by-day calendar denotes it's Saturday. Tom is seated at a small writing desk, or table, struggling with his homework. Scowling, he can't seem to concentrate. He opens, leafs over a few pages, and closes, book after book. He opens his note book, starts to write in it. He pauses, reflectively, obviously upset, closes note book, and pushes all of his books away from him, disconsolately. He sits there, dejectedly, until he hears something out-of-doors. He arises and walks to the window.

Scene 2 (Medium). Tom crossing room to window and peering out.

Scene 3 (Long). Across the lawn of the house next door. An auto has driven up to the curb. From the auto alights Mr. Bailey, their next door neighbor. He assists Betty Bennett, a charming girl, out of the car and reaches in for her baggage.

Scene 4 (Close-up). Betty, in a form revealing traveling suit. She is very attractive. She fusses a bit with her hair. Mr. Bailey in background pulling out bags.

Scene 5 (Long). Across lawn next door, revealing the Bailey house front door on one side and car at curb on other. Pick up Mrs. Bailey leaving front door, clad in house dress, pan camera as she approaches her husband and niece coming up walk, her husband carrying the bags. They all meet and stop midway.

Scene 6 (Medium). Mrs. Bailey kissing first her niece, then her husband. She's extremely glad to see them both.

Scene 7 (Medium). Davis' living room. Tom standing at window, peering out.

Scene 8 (Close-up). Tom, wide-eyed with wonderment, has fallen in love at first sight with Betty.

Scene 9 (Medium). Tom, standing at window, wide-eyed, suddenly gets an idea, and breaks into action. He makes a beeline for the kitchen.

Scene 10 (Medium). Davis' kitchen. Mrs. Davis at table preparing something as Tom dashes through kitchen and out the back door without a word to his mother. Wondering what he's up to, his mother momentarily drops her work, goes to kitchen window, looks out. Her gaze follows him as he dashes around the corner of the house carrying the lawn rake. She leaves window, exits through kitchen door into living room.

Scene 11 (Medium). Davis' living room. Mrs. Davis crossing room to same window through which Tom was looking a few moments ago. She looks out window.

Scene 12 (Medium-long). Davis' front lawn. Tom is walking around the corner

of the house carrying the rake. It is a deliberately slow walk compared to his mad dash to get the rake and get out in front with it.

Scene 13 (Medium). Tom, raking the front lawn and casting moonlike side-long glances at the Baileys and Betty, who still are standing and talking on their walk midway between their car and front door.

Scene 14 (Long). Tom raking lawn. Baileys, in background, start toward their front door. None of the group has even so much as seen Tom, so busy are they with their conversations.

Scene 15 (Medium). Davis' living room. Mrs. Davis at window watching Tom making a weak pretense at raking lawn. Her wonderment turns to amazement; and the amazement, when she sees the pretty girl with the Baileys, turns to amusement. She turns, still amused, and goes back to her work in the kitchen.

Scene 16 (Medium). Tom still raking lawn, while the Baileys, in the background, exit through their front door with Betty and her baggage. None of them has even seen Tom.

Scene 17 (Close-up). Tom pouting. Abject disappointment is written on his face; he ceases his raking, and starts down the side of his house, the side away from the Bailey house.

Scene 18 (Dolly-shot). Follow Tom down the side of his house. Dejectedly, he throws the rake alongside of the house, rounds the rear corner, approaches and seats himself on the back steps. He places chin in hands, elbows on knees, forlornly.

Scene 19 (Medium). Tom sitting on back steps in above posture.

(Fade-out)

Scene 20 (Fade-in). Davis' kitchen. Mrs. Davis putting finishing touches on whatever she is preparing. She sets down her work and, going to the window, peers out.

Scene 21 (Long). Through kitchen window from inside. Tom still sitting disconsolate.

Scene 22 (Medium). Mrs. Davis looking out window. She comes away with amused smile on her face.

Scene 23 (Medium). Exterior of Bailey back door, shooting toward the Davis house, where, in background, Tom is still sitting on his own back steps, disconsolate.

Scene 24 (Medium). From Bailey back door enters Betty, carrying a market basket. She exits around the corner of her house. In background, Tom has come to life.

Scene 25 (Medium). Tom, coming to life, dashes through back door into his kitchen.

Scene 26 (Medium). Davis' kitchen. Mrs. Davis puttering about. Tom enters in a rush through the back door. As Tom rushes in, Mrs. Davis observes through the kitchen side window the new girl next door going up the walk between the houses carrying a market basket. Tom grabs up a similar market basket and places in it several empty milk bottles from under the sink. He asks his mother if there's anything that she wants from the store. Amused, she shakes her head negatively. Tom makes a beeline through the back door carrying the market basket loaded with the empty milk bottles.

Scene 27 (Long). The street on which the Davises and Baileys live. Betty is walking along the sidewalk carrying her basket. She is about 60 or 70 feet ahead of Tom, who is hurrying to overtake her.

Scene 28 (Medium). Both walking rapidly away from the camera, Tom a few feet behind Betty. He's walking a little faster than she.

Scene 29 (Medium). Tom passing Betty as she strolls along the walk.

Scene 30 (Close-up). Tom's face as he turns it toward Betty when passing her. His expression is one of eagerness combined with inquiry and breath-absorbing wonderment on his part. He speaks to her.

Scene 31 (Close-up). Betty's beautiful but calm, youthful face. She ignores his glance and words, with her nose and chin high in the air. When he speaks she elevates her nose and chin just a little higher.

Scene 32 (Medium). Back to Tom in the act of passing Betty as they walk. Tom's expression turns to one of chagrin and mortification. Plainly embarrassed, he hurries past and walks on to the store faster than ever.

Scene 33 (Close-up). Betty smiles to herself amusedly, as Tom hurries away. (Fade-out).

Scene 34 (Fade-in) (Long). Betty com-

ing back along the same sidewalk. She's been to the store. She has a few groceries in her basket. A few feet behind her Tom is strolling along. His basket is empty. He's exchanged the milk bottles for the deposit.

Scene 35 (Medium). Tom, strolling along with his empty basket. Suddenly, he braces up, lengthens and accelerates his stride, puts his teeth together and narrows his eyes in grim determination. He'll show her.

Scene 36 (Medium). Tom, overtaking and passing Betty again.

Scene 37 (Close-up, Tom and Betty). He suddenly breaks into volubility and, at the same time, gestures an offer to carry her market basket.

Scene 38 (Medium). Betty stops dead in her tracks, indignantly. Then she takes one long backward step away from Tom, glaring at him furiously. She is speechless with wrath. The very idea of him thinking that she is the pick-up type of girl. She stamps her foot with impatience, then deliberately detours away around Tom, leaving plenty of room between them, as she proceeds on her way. As she passes him, she gives him one final sniff of utter contempt.

Scene 39 (Long). Betty tripping her way daintily out of the picture away from the camera.

Scene 40 (Medium). Tom, sulking along dejectedly; his world has come to an end. (Fade-out).

Scene 41 (Fade-in) (Long). Davis and Bailey homes. On the sidewalk between the two homes Tom's mother and Betty's aunt are conversing. Betty trips gayly into the picture with her basket of groceries. Tom is sulking along several yards in the rear.

Scene 42 (Medium). Betty affectionately meeting her aunt, and being introduced to Mrs. Davis. She curtsies sweetly. Mrs. Davis calls and beckons to Tom, who is loitering and sulking out on the sidewalk.

Scene 43 (Medium). Tom enters the picture considerably abashed. He has misgivings about all women—even his own mother—at this moment. His mother cheerfully reminds him that he knows Mrs. Bailey, which he politely but reluctantly acknowledges. Then Mrs. Bailey introduces him to her niece, Betty.

Scene 44 (Close-up). Betty suddenly turns, all sweetness, beauty and light. She says that she's so pleased to meet him, and acts like she really means it.

Scene 45 (Close-up). Tom brightening up. He is reborn again. She isn't really and old snob after all. They just had to be introduced. Just a mere formality. He should have remembered the rules.

Scene 46 (Medium). Betty and Tom radiant in conversation. Tom is still a bit bashful, however. He can hardly believe his eyes and ears. He also hasn't quite got over her ferocious act of just a mere few moments ago. Their baskets are taken from them by their aunt and mother, respectively, by whom they are told to run along and amuse each other.

The two youngsters stroll off still talking animatedly.

Scene 47 (Long). Tom and Betty, walking away together, now hand in hand, from the camera and into a beautiful sunset.

Scene 48 (Close-up). The two stop.

Tom's right arm slides around waist of Betty. He looks at her. She turns her face to his. Her left arm slips around his waist. Both turn faces toward the sunset.

(Fade-out).

—END—

FONDA MACHINE COMPANY COMPLETES DEVELOPER

AFTER two years of planning and building, of simplifying and of ironing out of "bugs," the Fonda Machinery Company, at 8928 Santa Monica Boulevard, Hollywood, has completed work on its development machine and is ready to go. Pictures of it will be seen on the opposite page. John F. Van Leuven, sole owner of the company, made the announcement shortly after the New Year. He declared that William V. Brenbarger, associated with him in the ownership of the patents and who has done the major part of the mechanical work involved in the construction of the machine, was in agreement with himself that at last their experimental work was done and that the machines could go out on the market without the necessity of machine shop maintenance.

Simplicity of construction has been one of the main objectives of the two men who have designed the Fonda. Among others have been planning and with success to eliminate as many as

possible of the laboratory problems.

Film enters the machine at a constant steady speed which is maintained in an even flow throughout the developing and drying process, and is carried on 7¼-inch bakelite rollers which are all free on live shafting or tubing. The large roller diameter accomplishes the same results as expensive bearings without their initial or maintenance costs.

All sprockets and elevators have been eliminated.

Altogether these machines make for very simple, constant, safe operation and are particularly adapted to the handling of narrow film in that the soft even tension is maintained without relaxation which eliminates all turn-over tendencies so present in miniature film, especially 8 mm.

The company is giving its entire time to the manufacture of developing machinery and has the ability to supply any laboratory need for this kind of equipment.

Kodak Panatomic-X Film Available in Other Forms

Kodak Panatomic-X Film, which has become famed as a medium for miniature camera work since its introduction a few months ago, is now available in a wide range of roll film and film pack sizes, the Eastman Kodak Company announces from Rochester.

Kodak Panatomic-X has appreciably finer grain than that which won high regard for the present Kodak Panatomic Film. This improvement in grain is obtained without sacrifice in speed, as compared to Panatomic. Thus Panatomic-X roll films and packs are established as all-around, high-quality fine-grain panchromatic films of ample speed for nearly all conditions other than those requiring the extreme speed of Kodak Super-XX.

This truly fine-grain film is of special interest to owners of cameras making vest pocket or half-620 negatives, and other smaller roll film and film pack cameras producing negatives from which enlargements are desired.

Kodak Panatomic-X is recommended

not only for high quality results with ordinary subjects, but also for copying photographs, halftone reproductions and documents, for technical photography, and for salon and exhibition work.

Metropolitan of St. Paul

The Metropolitan Cine Club of St. Paul, Minn., held its monthly business meeting January 3 at the Angus Hotel, with increased attendance. With the St. Paul Winter Sports Carnival not far distant, starting January 28, plans were discussed and completed for filming this colorful occasion.

The opening event is the "Big Parade" made up of brilliantly colored uniformed marching units, drum corps, bands and floats, which normally takes about four hours to pass a given point. On January 17 the programme consisted of lighting studies in which a model was used in making the picture.

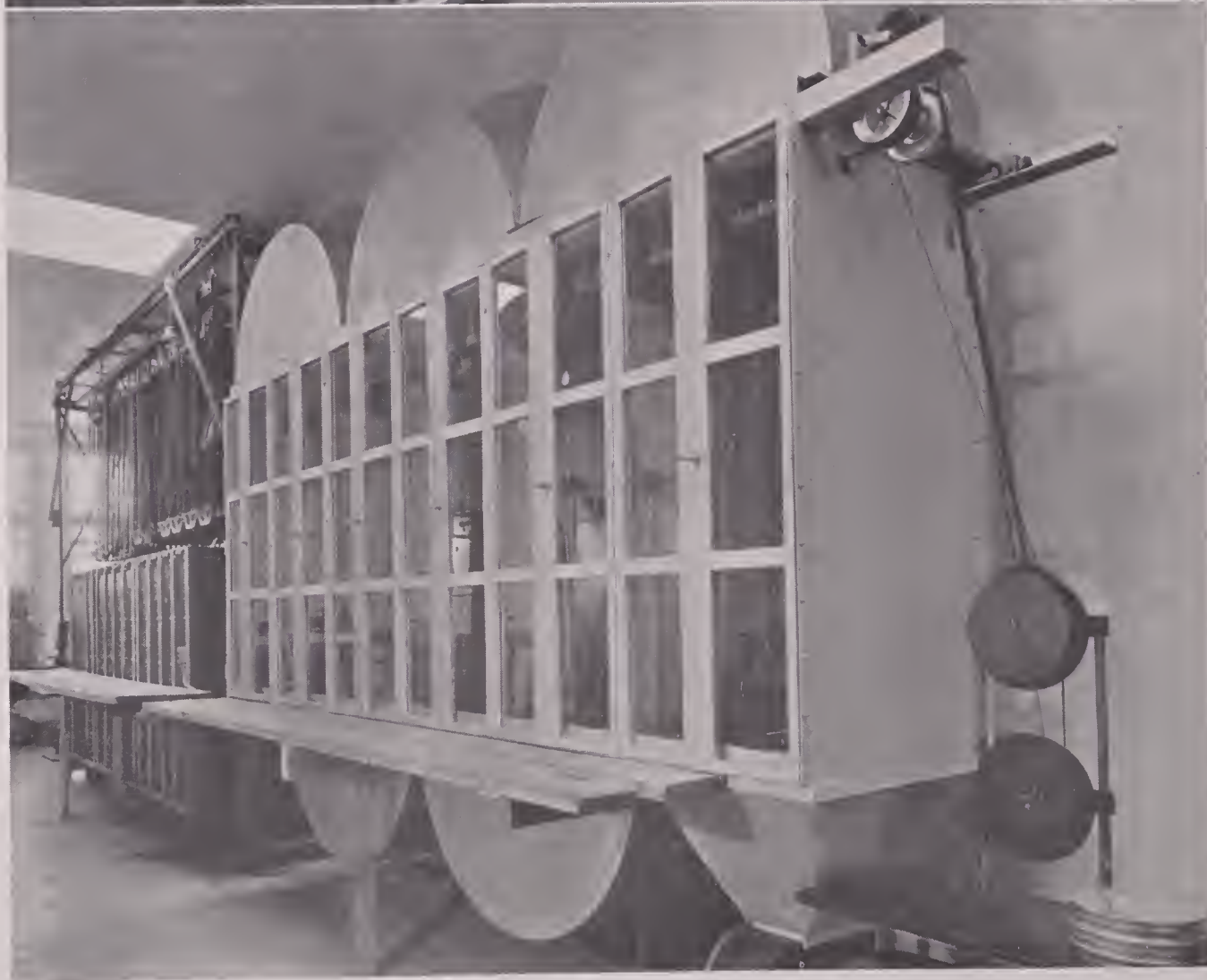
Tentative plans for a full and interesting season of motion picture study have been completed.

HAROLD E. PIGGOTT, Secretary.

*Picture
of Fonda
Developing
Machine
photographed
from the
wet end.
Running
board
indicates
floor
level.*



*Fonda
Developing
Machine
photographed
from the
dry end.*



BERT GLENNON INTRODUCING NEW METHOD OF INTERIOR PHOTOGRAPHY

By JOHN CASTLE

WHILE sort of "covering Hollywood" for a national publication the idea of getting the point of view of The Man Behind the Camera appealed to me as a method of obtaining facts without the usual glamour and elevated adjectives of your very efficient publicity departments.

Bert Glennon was highly recommended to me as a man whose progressiveness and sincerity has kept photographic competition moving, so over to United Artists Studios and particularly Walter Wanger's production which Glennon was photographing to take a look at this individual.

Upon introduction Glennon suggested that observation was an important asset to a writer, so I enjoyed watching John Ford, the director of "Stagecoach,"

move his people around in smooth delineation of the characters they were portraying.

There was that amiable goof, Andy Devine, as the stagecoach driver; serious George Bancroft as the marshal; the delapidated Thomas Mitchel as the drunken doctor, and convincing Claire Trevor as the—well, the "lady," if you know what I mean.

This group is only a part of the cast and were the only characters working during my observation.

Time Most Expensive

Really, present day motion picture production is amazing—that is, the effective effort used in accomplishment of scene photography is amazing, if all directors work like Ford and Glennon.

The smoothness of handling people and the precision of mechanical methods is a demonstration of time-saving procedure.

Time, as I understand it, is the most expensive item concerned in the production of a motion picture. In some cases I am told it will run about \$150 a minute during the working day.

Please let me describe the modus operandi of one complete scene. At the close of a scene the stillness was broken by the buzzing of voices, each person concerned attending to his particular responsibility.

The lights and cameras were moved to the edge of the set and everything became quiet again—moderately so. Ford and Glennon stood in the center of the set, which was a low ceilinged adobe room that I suppose was a part of a desert overnight stop for the stagecoach.

I could not hear their conversation, but both were gesticulating. (I noticed nearly all persons around a motion picture set do a lot of talking with their hands.)

Mr. Ford then walked off the set with an "Okeh" and Glennon remained there for a few seconds. He appeared to be planning. He looked at the ceiling, then started to back away as if measuring. He called for a "Finder, please, 25 millimeter."

X Marks Spot

One of the men at the camera quickly obeyed. "Right here," said Glennon, and a grip, as they call the man who handles immediate construction and moves heavy equipment, marked the position of Glennon's feet with a chalk mark X.

The crew around the camera moved it to that exact spot and leveled it accurately. Glennon then went into a discussion with his chief electrician, who proceeded to follow his instructions. Lights started to move into position. I heard Glennon ask for a redress of the angle of the property department and call for the actors' stand-ins.

The sound crew started to move into their position and I noticed Glennon and the man in charge of sound discussing the scene. Everything seemed to move swiftly, and at no time was I conscious of any confusion. If anyone wished to know something about the scene they asked Glennon. He seemed to be the source of information, and I wondered about such a procedure and decided to get his answer on that ques-

Cinematographer Bert Glennon, at left, and Director John Ford study lighting and set before making a scene for Walter Wanger's "Stagecoach." Ford, renowned for his ability to build romance into two fisted characters, was thoroughly pleased with his "Stagecoach" assignment. Apparently Glennon is of the same mind.



tion as soon as I could have a moment with him.

After a very short time Glennon called the assistant director and told him that the set was ready. Mr. Ford then checked the "set-up," people's position and general camera movement. He then ran a mechanical rehearsal with the cast concerned to disclose any difficulty that might develop out of the scene's mechanics, after which he "got down to brass tacks" with his people.

Scene Was History

When satisfied he called for "Cameras!" and the scene was history. (As Glennon told me afterward: "Ford knows what he wants and when he has it, so I had better be right the first time because he will not take a scene more than once if he gets it the first time.")

A yell from Ford that the scene was Okeh started the same buzzing and bustling as the crew began clearing the set for the next set-up.

This same procedure was adhered to until the company "broke" for lunch. My mind was filled with questions, and Glennon, I hoped, would supply the answers.

On our way to lunch I started with: "Now, you told me what observation meant to a writer. Well, here are a few of my observations: That you not only photograph the picture, but you are a stage manager as well. Is that common with all production units?"

A.—I don't think it is an accepted practice, but in Mr. Ford's case he desires to explain and discuss the mechanics of his requirements to one man and relies upon that man to follow through.

He has a crew of experts in their line and their cooperation is 100 percent. The present arrangement seems to work out for Mr. Ford and saves valuable minutes of time. After all, the camera is putting the result upon the screen. So I guess the added responsibility doesn't hurt.

Who Most Important

Q.—In your crew whom do you consider the most important?

A.—All concerned are important, but I suppose the assistant cameraman is the most vitally important. To explain, our lenses have a very narrow plane of critical focus which must be held on the chief point of interest throughout the scene. In this particular picture where most of the scenes are taken once that gentleman must be on his toes and not miss, and this one doesn't.

Q.—Other sets I have visited have many lights placed all around the top. I notice no parallel construction for lights on any of your sets and all of them have ceilings. Is that something new?

A.—Yes, it is a decided break from the conventional method of lighting sets and people. The ceilings were necessary because the sets were low, and as

a certain reality of perspective is obtained by the use of the 25mm. lens, which included ceiling in nearly every shot, the elimination of the conventional backlight or "Hollywood halo" was forced.

Believe me, it is quite difficult to obtain "roundness" of image without the use of backlight, but in order to follow out the photographic idea, which was "reproduce the method of lighting as used in the Sargent paintings of the early West," it was necessary to use backlight only when it was the source of the light.

Q.—Do you always have a photographic idea to follow when lighting a motion picture story?

The Photographic Idea

A.—That depends. If the production warrants, a photographic idea is adhered to religiously. On the other hand, if the producer is forced to hold the production to a tight schedule, the only way one can make time is what I call a formula in lighting which lends itself to tremendous speed. Fortunately, I have been assigned to important pictures in the last three years.

Q.—What was your last picture and what was the photographic idea?

A.—John Ford's "Hurricane" for Sam Goldwyn. "Hurricane" was a deliberate attempt to feature Sound, Music and Photography—a cooperative determination to co-ordinate these three elements to produce a definite emotional effect upon the audience. It was a success. The sound won the Academy award and the picture is rated one of the ten best this year by the national press.

Q.—And the picture before that?

A.—Lloyds of London for Twentieth Century-Fox. This period picture with its costumes and old painting settings was photographed to create the idea of mellowness and texture throughout the production. It won for me an association in the Royal Photographic Society of Great Britain.

Q.—Let's take one more.

A.—"The Prisoner of Shark Island," for Twentieth Century-Fox, in which the effect of "steel etching" quality was strived for in all scenes, especially the close-up work. This effect was obtained by the use of blue light.

Making Strides

Q.—What is the future for motion picture photography as a whole?

A.—The technical side is making tremendous strides in all branches. Continual application is necessary to keep abreast of that progress.

Q.—And the artistic side?

A.—Photographic achievement rests entirely with the courageous creative ability of our camera personnel.

On our way back from a sandwich we passed through a very large sound stage wherein a western street was

constructed. There must have been about twelve buildings and spread out over the entire stage from wall to wall.

An art director approached and something was said about wetting the street down and there was a brief discussion about one of the backings at the end of the street. We resumed our interrogation.

Q.—When do you come into this set?

A.—Late this afternoon.

Q.—But I don't see any lights up high. In fact, I don't see any at all. What does that mean?

A. (smiling)—You are observing, aren't you? Well, all of the scenes are at night, so we decided to have our action lighted from the true source: light coming from doors and windows and occasionally a street lamp.

Q.—I imagine production expense has been lowered by your method of lighting?

Foot-Candle Meter

A.—On this picture it has. Whether or not this type of lighting will lead to a progressive step remains to be seen.

Q.—What is that instrument you hold before the lights while preparing or lighting a scene?

A.—Oh, that? Why, it's a foot-candle meter which measures the intensity of the light falling upon an object. By adjusting the light to a predetermined reading on the meter the lighting is kept rigidly constant throughout the picture.

The advantage principally concerns the consistent developing and printing range of the negative. So far the negative of this production has developed between 10.5 and 11.5 minutes and the range of printing is within three lights on the print scale.

Q.—How long have you been using this method of procedure?

A.—For the past two years. The Technicolor Corporation designed and calibrated the meter for me, and it is now my constant companion.

Q.—Do you think other studios will adopt this procedure?

A.—Yes, I think so. I recently read an article where Twentieth Century-Fox has made a meter of similar design a part of each cameraman's equipment.

Q.—How long have you been studying light and its reaction to photography?

A.—All my life.

Q.—And what do you know about it?

A.—Nothing.

Q.—But you do know how to use it?

A.—Yes.

So back to the set to clean up a few more set-ups before moving over to the big set. My time was up, and as I walked out of this studio I fully realized the amount of intelligent effort and thought that is expended to give us the entertainment we see on the screen. I salute The Man Behind the Camera.

CANDIDATES NAMED FOR ACADEMY CAMERA HONOR

THE productions nominated for the Academy photographic award were announced just prior to the closing of the Cinematographer's forms. Under the rules the photographic staff of each studio named one production from that organization for the consideration of the group qualified to make the selection. The pictures and the unofficial credits attached to each are as follows:

Algiers, James Wong Howe, Wagner's. Army Girl, Harry Wild and Ernest Miller, Republic.

The Buccaneer, Victor Milner, Paramount.

The Great Waltz, Joe Ruttenberg, M-G-M.

Jezebel, Ernie Haller, Warner Brothers.

Mad About Music, Joseph Valentine, Universal.

Merrily We Live, Norbert Brodine, Hal Roach.

Suez, Peverell Marley, Twentieth Century-Fox.

Vivacious Lady, Robert De Grasse, RKO-Radio.

You Can't Take It with You, Joseph Walker, Columbia.

Young in Heart, Leon Shamroy, Selznick-International.

The special rules for the Cinematographic award of the eleventh annual Academy awards of merit are as follows:

Cinematography: For the best achievement in cinematography of a black and white picture, 80 percent of the release footage of which must have been photographed in America under normal production conditions.

(1) One picture from each studio shall be nominated for this award. Each studio's nomination shall be chosen by that studio's photographic staff under the direction of the head of the camera department.

(2) The one production to receive the cinematographic award shall be chosen from those productions nominated in accordance with paragraph (1) above, by a committee to be known as the Cinematographic Award Committee, which shall consist of one representative of the photographic staff of each studio nominating a production for consideration for the award.

(3) Each studio's representative on the Cinematographic Award Committee shall be selected by the photographic staff of that studio, except that any member of the photographic staff of any nominated production is ineligible to serve on this committee.

(4) In order that each member of the Cinematographic Award Committee may judge the photography of all nominated

productions upon the same basis, it is specified that the committee shall view all of the nominated productions at a series of special showings to be arranged during the Awards period.

In order to participate in the vote to select the one picture to receive this award each member of the Committee must view all of the nominated productions under the same viewing conditions in the same viewing room. It is further specified that all voting by the Cinematographic Award Committee shall be by the "preferential" system of voting and shall be governed by the regular rules set up for this system of voting.

For Art Direction

The following productions have been nominated for the Academy award for achievement in art direction:

Adventures of Robin Hood, Adventures of Tom Sawyer, Alexander's Ragtime Band, Algiers, Carefree, Goldwyn Follies, Holiday, If I Were King, Mad About Music, Marie Antoinette and Merrily We Live.

Academy Names Committees to Revise Technical Rules

Nathan Levinson, Chairman of the Technicians Branch of the Academy,

has named these committees to consider the rules used to govern the various technical awards last year, for the purpose of determining whether or not changes should be made for use this year.

Cinematographic Award, Joseph Valentine, chairman; John Arnold, Joseph August, Norbert Brodine, Edward Cronjager, Robert DeGrasse, Arthur Edson, William Eglinton, George Folsey, Jr., Fred Gage, Merritt B. Gerstad, C. Roy Hunter, Thomas Ingman, Ray June, Sidney Lund, E. B. McGreal, George B. Meehan, Jr., Virgil Miller, Victor Milner, Ira Morgan, L. William O'Connell, Emil Oster, George Robinson, Roy Seawright, George Seid, Karl Struss, Allen Thompson, Joseph Walker, Vernon Walker, Lester White, and Ray Wilkinson.

Sound Recording Award, John Aalberg, Bernard Brown, E. H. Hansen, Nathan Levinson, John Livadary, C. L. Lootens, Thomas Moulton, Elmer Raguse, Loren Ryder, and Douglas Shearer.

Technical Award, Executive Committee of the Academy Technicians Branch, the membership of which consists of Nathan Levinson, Chairman; John Arnold, Farciot Edouart, Fred Gage, Wesley C. Miller, Van Nest Polglase, Ray Wilkinson, and Bernard Herzbrun, chairman of the art directors' section; Peter Mole, chairman of the equipment section; Harold J. McCord, film editors section; Ray June, photographic section, and William Muelter, sound section, and Gordon S. Mitchell, manager of the Academy Technical Bureau.

APRIL 14 DATE SET FOR LITTLES' TENTH PARTY

IN the last week of January Duncan MacD. Little has mailed word to his many movie making friends the world about asking them to contribute films for consideration by the jury which will select the program for his Tenth Annual Movie Party.

Mr. Little has requested that films arrive in New York not later than March 10 so that there may be ample time for the jury to select the films to be screened, and then, with the selections made, to arrange appropriate musical accompaniments for all films.

The party will be held on Friday evening, April 14, at the Barbizon Plaza Theatre, for, as our readers know, these affairs had grown to such size by 1937 that it was necessary to "hire a hall" so great was the demand for tickets among the friends of Mr. and Mrs. Little.

The Salle des Artistes in New York City was packed in 1937 and 1938, the audiences numbering in excess of 300 in both years. And yet the demand was greater than could be accommodated.

This year for the Tenth Party a still

larger auditorium has been selected, and, on account of the increasing expenses of this extraordinary institution of amateur movies, Mr. and Mrs. Little have decided to place their tickets upon a subscription basis, hoping the interest of their friends and the movie-minded public in general will be sufficient that their expenses will be equaled, and possibly exceeded.

Surplus to Charity

Having no wish to profit in any way other than to meet expenses, Mr. and Mrs. Little announce that any surplus of receipts above actual expenses will be given in full to the Peabody Home for Aged Women, the only free and non-sectarian institution of the sort in New York City, and in which charity Mrs. Little is much interested, being a member of the Woman's Auxiliary.

The organization and plan of the party is to be similar to that which has been the custom for the past several years.

The list of "invitations to contribute"

numbers in excess of two hundred, and these are addressed to amateurs in twenty States of the Union, in four Canadian Provinces and twelve foreign countries. Truly the Littles' Movie Party has become international.

These affairs have grown by leaps and bounds, from a modest beginning in 1929 when there were but twelve guests and no contributors, only films of Mr. Little's production having been screened at that event.

This year, because of the innovation of the subscription idea, Mr. Little will place no film of his own before the jury, his great interest and desire being simply to learn whether or not such a program as has been screened during the recent years can justify the great amount of work and the close attention to a vast number of details that such a party involves.

Guide for Future

The Littles have enjoyed placing these programs before their friends and they have enjoyed, too, the making of new

friends at home and abroad that has resulted. They believe their plans for the Tenth Party will produce concrete evidence of what should be done in the future.

If these events are to continue, now is an excellent time for others interested, either as amateur film producers or as audience, to band together behind Mr. Little, and form an organization to assist in the work and to relieve one willing person of the burden and the financial strain of carrying-on alone.

Mr. and Mrs. Little have told this magazine of their hope that such an organization might be formed—an organization not to take the place of any of the present worthy groups that are doing so much to advance the amateur film but rather an organization that can assemble from these many groups and the countless legions of lone workers the creditable films that they produce and make them available for screening before the many, be they non-moviemakers or experts, who nevertheless are interested.

MAKE-UP AND SET PAINTING AID NEW FILM

(Continued from Page 56)

colors which gave one impression visually and another actinically.

It is not unlikely that much of today's vogue for white and gray sets could be traced to an effort—subconscious, perhaps—to eliminate such misunderstandings.

Painting Suggests Depth

Personally, I can think of no other valid excuse for some of the white sets I have seen lately! These troubles, we have already proved, are eliminated with the use of these standardized pastel set colorings.

But there is a further practical advantage to the set-painting system we have developed. Granting of course proper cooperation between the set-designer and the cinematographer, the use of these colorings can do a great deal to simplify the cameraman's task of suggesting in a two-dimensional picture the third dimension of depth.

One of the principal sets for "Three Smart Girls Grow Up," for instance—the living room of a wealthy family—was painted entirely in shades of pink and tan. Columns, corona, arches, baseboards and other features one would naturally expect to have stand out well from the walls were painted in a light shade of tan.

The walls themselves were in an intermediate shade of pink, while the friezes above the columns, and some of the decorative panels on the walls were in a darker shade of the same color. The panels were outlined in a yet darker shade.

The result was a set which not only photographed pleasingly but which was easier to light. The columns, for instance, stood out naturally against their darker background, while at the same time their light tan coloring did not give the glaring effect they would have if they had been painted white or even an equally light gray.

The dark pink friezes, set off by the tan cornices and architraves above and below, also stood out in natural relief with far less modeling lighting than would otherwise have been necessary.

Can Predetermine Value

The same ideas were carried out on the other sets, with varying color schemes. Some sets were entirely in the blue-green, in blue-green and tan, and others which would ordinarily have been white or very light gray in the lighter shades of the blue-gray.

In every case both Otterson and I knew before a bit of paint had been applied to the set exactly what would be the photographic value of any given area. From this we could easily determine whether its shade was correct to match my plan of lighting, and to give visual relief to the picture.

Another important if less obvious aspect of this system is the psychological effect upon the actors, and in fact upon the whole company. Some colors—which may perhaps photograph excellently—are known to have a disturbing influence on people.

Color stylists have told me, for in-

stance, that they avoid certain shades of green in decorating airplane cabins because of their proved tendency to induce airsickness and nausea. All of us have seen rooms whose coloring seemed imperceptibly to set our nerves on edge. The shades we have chosen have been selected because they are psychologically soothing shades.

I've noticed myself that everyone in our troupe, whether they were acting in the sets or doing technical work on them, seemed mentally at ease. This may seem a small point, but mental attitudes can do a lot to make a picture good or bad.

Day-or-Night Backings

Yet another innovation we have tried, and found successful, is in backings. During the last year we have experimented considerably with large backings, painted in natural colors, rather than in the usual black-and-white. Especially in this latest production, we have found them definitely better.

Using natural colors, they appear more convincing, not only to those of us working on the set, but on the screen as well. The actual foreground and the painted backing seem to blend better with each other.

Lighting such backings is easier. Being in natural colors, they seem to have a higher reflective value—to require less light than conventional monochrome backings, photographic or painted. This is especially true with the new films, the increased color sensitivity of which enhances the value of natural colored backings.

Several of the sequences for which these backings are used required both day and night effects. Ordinarily, where night effects are called for in scenes using backings showing city buildings, a separate backing, with "illuminated" windows painted in, would be used.

Take Advantage of Speed

But since we were using the new Plus-X, why could we not, I wondered, take advantage of its speed to illuminate those windows with light instead of paint?

We tried it—and it worked. All that was necessary was to block out the back of the backing in the areas we wanted dark, and leave clear the spots we wanted "illuminated." At first we used heavy kraft paper, carefully cut out around windows and the like. More recently we discovered that opaque black paint, applied to the rear of the backing as desired, does quite as well and is quicker and easier to apply.

The windows are lighted up very easily by the simple expedient of placing a "broad" or two behind the backing, where its light will shine through the "window."

The front lighting is done in a lower key, to suggest night exactly as though we were making a night effect on a normal set. It is really surprising how successful this simple trick has been, even when, as happened several times, our players have had to work quite close to the backing.

B & H Continuous Attachment Provided for 800 Foot Film

Photo by Bert Glennon

The new 800-foot continuous attachment of unique design announced by Bell & Howell for use with Filmo and Filmosound Projectors has been developed not only to provide greater "show" capacity than has been previously available in such a mechanism but to incorporate features which add very appreciably to the life of the film used.

To eliminate friction between the film layers, the attachment is mounted in a

horizontal position. The edge of the film thus bears the film weight. The design is such that the convolutions of film are caused to spread apart from one another, making the film run loosely in the attachment.

The new 800-foot continuous attachment is for use with 16mm. films, either sound or silent. Eight hundred feet of sound film, at 24 frames a second, provides a 22-minute showing; silent film at 16 frames a second provides a 33-minute showing, before repeating. Showings of these extra lengths are very much desired by those exhibiting at fairs, conventions, etc.

Traveling Photo Show

A traveling show of 75 outstanding photographs from the files of the Works Progress Administration has been compiled and is available without rental fee for exhibition by photographic societies and art museums throughout the United States.

The collection includes varied applications of the documentary technique in photography as well as illustrative photographs, dramatic angle shots of industrial and construction subjects, architectural photographs and genre and human interest pictures. There are many excellent modern examples of pure design, pattern and texture.

All photographs in the show were selected from the regular working files of negatives made as a photographic record of the Federal Works Program.

The exhibition may be obtained by paying only transportation charges. For information and dates write to William C. Pryor, chief Photographic Section, Works Progress Administration, Washington, D. C.

Only eight motion picture films were produced in Australia during 1938, the chief competition encountered by American films in that country coming from the product of British industry, according to a report to the Department of Commerce.

Six New Photophone Soundheads

(Continued from Page 76)

at the edges, eliminating glare and permitting a clearer view of the interior.

The photoelectric cell transformer has been entirely shielded in a cast iron chamber in the soundhead, insuring virtual absence of noise from static in the soundhead, another improvement new to this equipment.

A completely new system of mounting the picturehead in the soundhead has also been devised. A separate, removable plate is provided atop the soundhead to which the picture head is fastened. It is then only necessary to remount the removable plate on the soundhead, securing it with four screws on the outside.

This contrasts with the older method of running long unhandy bolts from the picture head into the soundhead. The removable plate also serves as an oil collection plate, gathering oil drips from the picture head and feeding them into a tube which empties into a removable container.

The mounting plate is also designed to provide easy adjustment of the picture head in relation to the soundhead for the proper meshing of the picture head drive gears.



LIGHTING NEWS *Extra*

ON THE SET

EVERY DAY

SUPER-SPEED ROMANCE

INSIDE FACTS ABOUT NEW HOLLYWOOD TWOsome

By Cholly Catwalker

In the short time he has been getting around in Hollywood, young Fast Film has become known as a choosy boy. He doesn't go for the bright lights as did some of his respected ancestors. Oh, dear no! What illumination he has must be smooth and discreet, without a trace of shadows or "hot spots."

That is where young "Baby" Junior of the Solarspots made a big hit with the newcomer. "Baby" Junior isn't very big, and never has been a bright-light type herself, but true to Solarspot family tradition, she's always beaming, with never a shadow or the faintest suggestion of a "hot spot." No wonder everyone says, "They seem made for each other!"



Principal In Latest Hollywood Romance

Latest portrait of "Baby Junior" Solarspot, reported by Hollywood columnists as seen everywhere with the sensational newcomer, Fast Film. Baby Junior comes from one of the most distinguished families in Hollywood. Direct descendant of the Solarspots, Senior and Junior, originators of smooth, shadowless spotlight-beams, Baby Junior traces her ancestry in an unbroken line to the first "Inkies" to greet Panchromatic Film, direct ancestor of Fast Film, on arrival in Hollywood over a decade ago. This new linking of the 1939 generation of two famous families is singularly appropriate.

FAST FILM, SOLARSPOT "THAT WAY"

By Walter Windshield

The latest in Hollywood romances is that Fast Film and the Mole-Richardson youngster, "Baby" Solarspot, are twoing. Following early encounters with the older, heavy-weight members of the lighting family, reported to have left the celluloid newcomer thoroughly "burned up," F. F. and Baby Jr. have been going together with that old "you were made for me" glint in their eyes.

The traditional baby of the Solarspot family is taking it big. As who wouldn't? For years relegated like a baby sister to obscure "fill-in" tasks, suddenly promoted to key lighting posts illuminating glamorous stars, and paired romantically with the sensation of the day, Kid Fast Film himself?

According to the grapevine and my girl Thursday, Baby Junior and Fast Film have been seen holding hands by practically all of the Supreme and Plus-X sets. From where I sit it looks like a steady combination, with the older members of the Solarspot family, Junior and Senior, chaperoning happily from the catwalk behind goboes and dim bulbs.

Perhaps Some Day—
You'll Light Sets With Matches:
Until Then



SOLARSPOTS ARE BEST FOR
ALL FILMS

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Gadgets for the Moviemaker

(Continued from Page 58)

an inch in length. Grasping this between thumb and finger made focussing a pleasure (Fig. 6).

As to Rewinding

It appears that many projectionists delay the show by rewinding each reel as it is shown and possibly that is occasioned by the difficulty in identifying the subject matter if several reels of film are shown and all rewound upon conclusion of the program.

I solved this easily by splicing a short length of film leader on the end of each film and printing the title of the picture on this strip in India ink.

By running all your reels before rewinding, your show is speeded up and your friends will appreciate that fact whether they are aware of it or not.

For a novel addition to an evening of movies try the projection of some still frames. If your projector is of a type permitting the easy removal of the condenser lens you can vary the show with the least of effort.

Save your film clippings and splice about three frames of each together and wind on a small reel. Thread your projector as usual.

Disconnect the motor belt from the claw driving mechanism, raise or open the heat screen, and when you have removed the aforementioned lens switch on the cooling motor and lamp and by hand-turning the knob actuating the claw you can quickly turn each frame into position and project large clear stills for any length of time without danger of burning.

With my projector I found I could project a single frame for several minutes with no apparent harm to the film other than a slight drying, but as cuttings will be used for the purpose there is nothing to worry you in the connection.

Movie Club Notes

New York 8mm. Club

The New York 8mm. Club held its December meeting at the Hotel Pennsylvania with nineteen members and four guests present. The business meeting covered the club party, to be held in January. The question of a film library for the club was taken up.

Two well known films from the library of the American Cinematographer, "New Horizons" and "Tender Friend-

ships," were shown and discussed. The exchange film, "The Beach Comber," by Anchor Jensen of the Seattle 8mm. Club, was followed by a film submitted by a proposed member, Mr. Carruth, entitled "Around Europe"; an interesting underwater picture taken in Florida by Albert Shafenberg (without using a polaroid filter). The newest and a really unique film was brought by a guest, Larry Silverman, who is an animator with Terry Toon pictures. His film, "Making 'Em Move," in color, was most interesting and inspired many questions. Our titling expert, Mr. Bravdegie, next showed a collection of New York 8mm.

leaders with excellent and varied titles. The last film was an "Old Timer," valuable chiefly as contrast and as a record of happenings 25 years ago.

Cinema Club of San Francisco

At the regular meeting of the Cinema Club of San Francisco, held Tuesday evening, January 17, K. G. Stephens, fellow Club member, exhibited both Kodachrome movies and colored slides of New Orleans and the surrounding territory taken on a recent trip to this fascinating and colorful city.

E. K. Hill, Sun Valley representative

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of the Union Pacific Railroad, presented 1600 feet of Kodachrome, accompanied by sound, of winter sports at Sun Valley, Idaho. The scenic effects in this picture are unusual, and it had the added interest of being one of the first Kodachrome duplicates produced by the Eastman Kodak Company.

DENIS DONOHUE, President.

Los Angeles 8mm. Club

With a gathering of 300 members and guests the "Cinematographer Night" meeting of the Los Angeles 8mm. Club was held at the Vine Street School Auditorium, 955 North Vine Street, on January 10.

President Leitch announced the following committee appointments:

Social, John K. Northrop, James B. Ridge, Henry Huddleston.

Technical, Robert W. Teorey, Milton R. Armstrong, Randolph B. Clardy, G. Loren Foote.

Contest, C. M. Drury, George T. Hewitt, E. L. Emenegger.

Shut-In, Claude W. A. Cadarette, C. William Wade, Jr., Leon C. Sprague.

Thru the Filter, Robert W. Teorey, editor; Ladies' Activities, Doris Lee; club artist, Randolph B. Clardy; still photographer, James B. Ridge; club projectionist, Dick Moore.

G. Loren Foote was then presented with the Horton Vacation Trophy his

"High Sierras" film won for him in the annual Club contest.

As a part of his platform of "a fifty-foot reel from each member," President Leitch presented an honor roll prepared by Club Artist Clardy. Members exhibiting film at meetings will have their names placed on the roll, and it will be hung in a conspicuous place at each meeting. Another feature of the year is to be a box where members can deposit unsigned suggestions or criticisms regarding club activities.

The meeting was then turned over to George Blaisdell, editor of The American Cinematographer, he in turn introducing William Stull, who presented the winning pictures of that magazine's 1938 International Contest. The pictures all had been set to music by Mr. Stull, who as in former years supervised the recording.

V. P. BURDICK, Secretary.

Philadelphia Cinema Club

It was a pleasure to hear from G. C. Crebbin of the Bausch & Lomb Optical Company and to see the motion picture "Eyes of Science," developed by that company, in connection with the manufacture of motion picture lenses. Both the picture and Mr. Crebbin were present at the January meeting of the Philadelphia Cinema Club. Both were thoroughly enjoyed.

At our December meeting "Herb" McKay demonstrated the proper way to light for indoor Kodachrome. To back up his demonstration he took a film, which was shown at the January meeting, indicating that he was correct in his explanation for light values.

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ern division of the Bell Telephone Company the membership was privileged to see the company's 800 foot black and white film, entitled "Safety First and Last." George Pittman, head of the technical committee of the club, was the photographer who shot the film for Bell Telephone.

A 400 foot film depicting the glories of the Wissahickon was shown by S. Trennor, and a 800 foot Kodachrome by Carl Finger carried us from Philadelphia through Central Pennsylvania to the Grand Canyon of Pennsylvania, up to Niagara Falls, and back again on one rare tour of autumn color.

Members of the club were invited to a private showing of film at Station KYW January 23, and also were to be the guests of the Philadelphia Photographic Society in its studios on January 31.

B. N. LEVENE.

Linderman Visits Hollywood

Robert Linderman, managing director of Mole-Richardson (England), Ltd., of London, is currently visiting Hollywood. The head of Mole-Richardson's thriving British affiliate made the trip to survey the latest Hollywood technical advances and to keep in touch with the progress of design and manufacturing methods at the M-R parent plant.

Cine Club of Dallas

At present the Cine Club of Dallas is in the process of expanding its membership and now has about fifty members. These amateurs meet the first and third Tuesdays of each month at the Jefferson Hotel. We have completed several club pictures; the latest, a topical picture of the City of Dallas, was presented to the Dallas Chamber of Commerce.

The pictures mentioned do not include any made by individuals in the club, and they have been very active. We would like to exchange pictures with any club desiring to exchange with us.

I am inclosing a clipping from the

Dallas News about our recent contest and a program of the Open House, where we entertained approximately 350 guests.

Our last meeting was a gadget meeting, at which all members brought equipment made by themselves. This is a real idea for other clubs to fol-

low if their members like to make their own. It was really surprising to see the fine equipment that had been made by these amateurs.

Contest judges were R. K. Johnston of Interstate, James Lovell of the Dallas Times-Herald and Fairfax Nesbit of The Dallas News.

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Photo by Bert Glennon

The 'Eighth Art' Describes Romance of Color on Film

The Eighth Art. Victor Keppler. William Morrow and Company, Inc., New York. DeLux Edition. \$12.50.

WILLIAM MORROW and Company display excellent taste in its presentation of "The Eighth Art," by Victor Keppler. The efforts of each and every individual and firm concerned deserves praise and congratulations for their accomplishment. It is a beautifully mounted book and makes an effective plea for a place in the library of the most discriminating.

Between its covers there is disclosed the romance of color and color photography. The author speaks with the authority of persistent research, holding your interest as he brushes away the cobwebs to pick out important transitions in the life of the color photograph.

"The Eighth Art" tells us how to make practical the theories of those great men who gave us color. The author's experiences serve as a short cut to the success of our first attempt at making a color print.

He helps in the selection of the proper equipment for making the negatives. He explains each step in a manner comparable with our ability to follow directions. He gives us a clear picture of the life of the color photograph up to the present day.

To the advanced student the Eighth Art is a historical compilation of the progress of color photography and the author's application of the various methods of making a color print.

To this reviewer the book was absorbing and convincing up to the point where the author digresses to intro-

duce his personal opinions and criticisms of present day motion picture production with respect to its "black and white movies—color added." And his foot stamping exclamation, "I am furious at Hollywood because they have concentrated on natural color and over-

looked emotional and psychological color values." Whether or not this chapter on Hollywood landslides this book into unpopularity among the leaders of progress of the motion picture industry remains to be seen.

BERT GLENNON, A.R.P.S., A.S.C.

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PHOTOGRAPHIC CHEMICALS AND SOLUTIONS . . .

Crabtree, Matthews

INTO the making of this book, illuminated with nearly 100 illustrations, has gone some of the knowledge acquired by Messrs. Crabtree and Mat-

thews during the past twenty-five years in compounding photographic solutions and studying their application to photography in the Research Laboratories of the Eastman Kodak Company.

The nucleus of this work was contained in the article "How to Prepare Photographic Solutions" (Brit. J. Phot. 66: 365, 1919). Subsequently many scientific papers cognate to this subject were published by the authors and their coworkers and the material of practical value in these papers has been

extracted and combined in this single volume for reference purposes. To this compilation has been added considerable hitherto unpublished information.

The requirements of the small as well as the larger user of photographic chemicals have been kept in mind throughout. The hope is expressed by the authors that the book therefore will be of value to all types of photographers including amateurs, professionals, scientific investigators, x-ray, photo finishing, photo-mechanical and motion picture workers.

In their introduction the authors note that the majority of amateur photographers prefer to purchase their chemicals in the prepared form. Within recent years, they point out, an increasing number of advanced amateurs, professional photographers and photofinishers also have begun to use package chemicals more extensively, but many workers and the majority of motion picture laboratories prepare their photographic solutions from the component chemicals.

Emphasis is laid on the fact that knowledge of the fundamental principles of solution preparation and use is important whether prepared powders of component chemicals are preferred. They serve notice that it is the purpose of the book to supply such information.

There are thirteen chapters, covering 278 pages, and an appendix and indexes covering an additional 82 pages. The book is finely made, in all departments. It is in keeping with what one would expect from Messrs. Crabtree and Matthews—that it should be tops in the realm of photography.

Photographic Chemicals and Solutions. By J. I. Crabtree and G. E. Matthews. Kodak Research Laboratories, Rochester, N. Y. American Photographic Publishing Company, Boston. Pp., 360. Illustrated. 1939. \$4.

New 16mm. Test Reel

A new 16mm. precision test reel for projection in sound has been announced by the S.O.S. Cinema Supply Corporation of New York City. This test reel is especially valuable to the visual education or physics departments in schools and institutions and, in fact, wherever 16mm. sound-on-film pictures are projected and studied.

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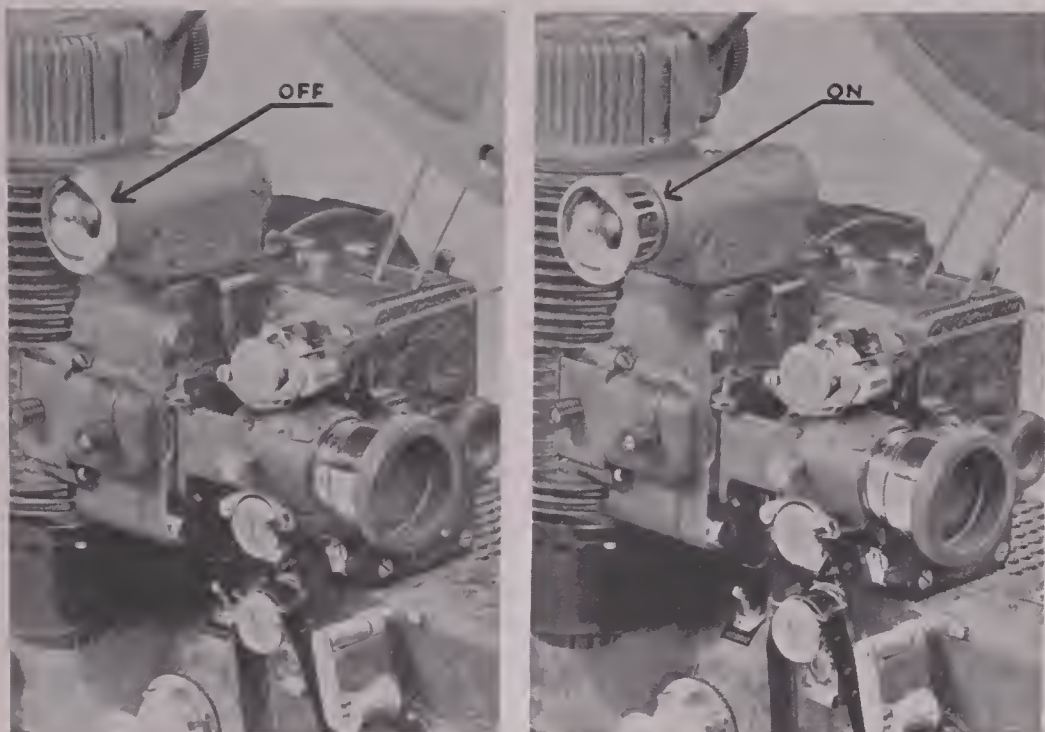
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New pilot light now standard equipment on Bell & Howell Model 138 Filmosound Projector

Illustration herewith shows pilot light—both “on” and “off” position—as mounted on a Bell & Howell Model 138 Filmosound.

Techniprocess Corporation Reorganizes and Expands

The Motion Picture Process Corporation has reorganized as the Techniprocess and Special Effects Corporation. Mario Castegnaro continues as president, with Bertha Castegnaro as secretary. Equipment in the plant at 1117 North McCadden place is being expanded. This also applies to the battery of Flatlite Screens, which at present comprises a half dozen, ranging in size up to 16 by 20 feet.

The personnel lists Richard Fryer, A.S.C., as general manager; Lewis L. Mellor, A.S.C., optical technician and consultant; Lewis Physioc, art director; Paul R. Cramer, projectionist, and Fred C. Windermere, special representative.

B&H 138 FILMOSOUND TO BE EQUIPPED WITH PILOT LIGHT

A BELL & HOWELL bulletin announces a new automatic pilot light will be standard equipment on all Model 138 Filmosound projectors effective with January production.

The pilot light is so situated on top of the blower housing as very clearly to illuminate the projector film-moving mechanism and amplifier controls. The light is operative as soon as the projector current supply cord is connected with current source.

The pilot light is turned on automatically simply by pulling the pilot light cap out of its housing. Pressing cap back into housing turns off the light. The lamp is easily accessible for replacement by unscrewing pilot light cap.

Through use of this new ever-ready

pilot light the projector operator can perform film-threading operations and see to operate amplifier controls without resorting to other illumination. Il-

New Size Agfa Acid Hypo

In answer to the many requests of photographers who desire a larger sized container of acid hypo for the sake of convenience and economy, a new one-gallon size (two-pound) container of Agfa acid hypo has been announced. Available at all photographic dealers at \$.45, the new one-gallon size of acid hypo provides a ready-to-use fixing solution when dissolved in water.

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Agfa's universal safelight outfit with interchangeable safelight filters.

Agfa's New Safelight

A new universal safelight outfit with interchangeable safelight filters has just been introduced by Agfa. The complete set includes a black enameled Agfa safelight lamp, Agfa A-3 green safelight filter, Agfa A-7 red safelight filter and a 10-watt yellow bulb.

Used in the lamp without a filter, the yellow bulb provides safelight illumination for contact printing papers such as Convira. With the red filter, the safelight may be used for Plenachrome and other orthochromatic films.

When developing panchromatic films, except those which require development in total darkness, the yellow bulb and the green filter assure safe, indirect darkroom illumination.

The lamp fits any standard electric outlet and may be screwed into either a wall socket or drop cord outlet. Because of its compact and convenient form, the safelight may be moved about and placed in positions impossible with a larger type lamp. It is listed at \$1.95.

Wholesale Takes on Eumig

John Brassington and Joseph Brawner, operating under the corporation name of Wholesale Camera Supply Company, 122 East Seventh street, Los Angeles, have taken on the distribution of the Eumig C4 camera. It is designed for double 8mm. film and is operated by an electric motor. It is equipped with an f.2:5 Berthiot anastigmat lens. The weight is 22 ounces and the size 2 by 3¾ by 4½ inches.

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Agfa Introduces New Printing Frame

A new printing frame for negatives ranging from 1 by 1½ inches to 4 by 6 inches is announced by Agfa. The Agfa Masking Print-Frame, as the new model is called, is equipped with adjustable masks, so that negatives of various sizes may be accommodated. This improved masking device also

makes possible easy and quick cropping of negatives. In addition, lengths are marked off in inches along each side so that the print may be made accurately to the desired dimensions.

Visits Homeland

Joe Ruttenberg, A.S.C., who recently photographed "The Great Waltz" for MGM, left January 10 for a visit to his old home in and around Boston. He will return to his later home in Beverly Hills to learn "The Great Waltz" has been named as his studio's candidate for the photographic award for 1938 to be bestowed by the Academy.

Australia Bound

Emery Huse, West Coast Manager of Eastman Kodak Company and technical editor of American Cinematographer, sails Wednesday, February 1, for Australia. He will be away until April 19 attending to Kodak business and will visit both Sydney and Melbourne. He will be accompanied by his family.

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ENGINEERS EXPECT BEST COAST CONVENTION EVER

THE Pacific Coast Section of the Society of Motion Picture Engineers is busily engaged in lining up arrangements for what is anticipated will be the best SMPE convention ever held on the coast—even surpassing in subject matter and attendance the last convention here in 1937. The date this year is April 17 to 21 and the Hollywood Roosevelt Hotel is the place.

Major Nathan Levinson, executive vice president of the SMPE for the current year; Loren Ryder, chairman



William C. Kunzmann
Convention Vice-President
SMPE 1939

of the section, and Homer Tasker, governor of the parent body and chairman of local arrangements, head the large group of local members who are setting details and arrangements.

Convention sessions will be open to all Hollywood technicians, engineers, cameramen and others interested in the technical phases and developments of the industry.

Program of papers is being lined up to be as complete and informative as possible for those technicians on the production side of the industry.

For the convenience of those employed in studios and plants who might not be able to attend daytime sessions arrangements have been completed for presentation at two night sessions of important papers on sound, photography, latest laboratory practices and other subjects of studio interest. These will

be held Tuesday, April 18, and Wednesday, April 19, at the Filmarte theatre on Vine Street.

The tentative program, as arranged by Convention Vice President W. C. Kunzmann during a recent visit to Hollywood, includes:

Monday—Informal luncheon and welcome by eminent men within the industry; afternoon, technical session and committee reports; evening, special studio visit for visiting members and guests.

Tuesday—Morning technical session; afternoon open for studio visit; evening, technical session at Filmarte theatre.

Wednesday—10 a. m. and 2 p. m., technical sessions; evening session at Filmarte theatre.

Thursday—Morning technical session; evening, semi-annual banquet and dance in Blossom Room.

Friday—1:30 p. m.—technical, business session and open forum.

Most of the technical sessions will be held in the Blossom Room of the Roosevelt. Arrangements are being made for



Nathan Levinson
Executive Vice-President
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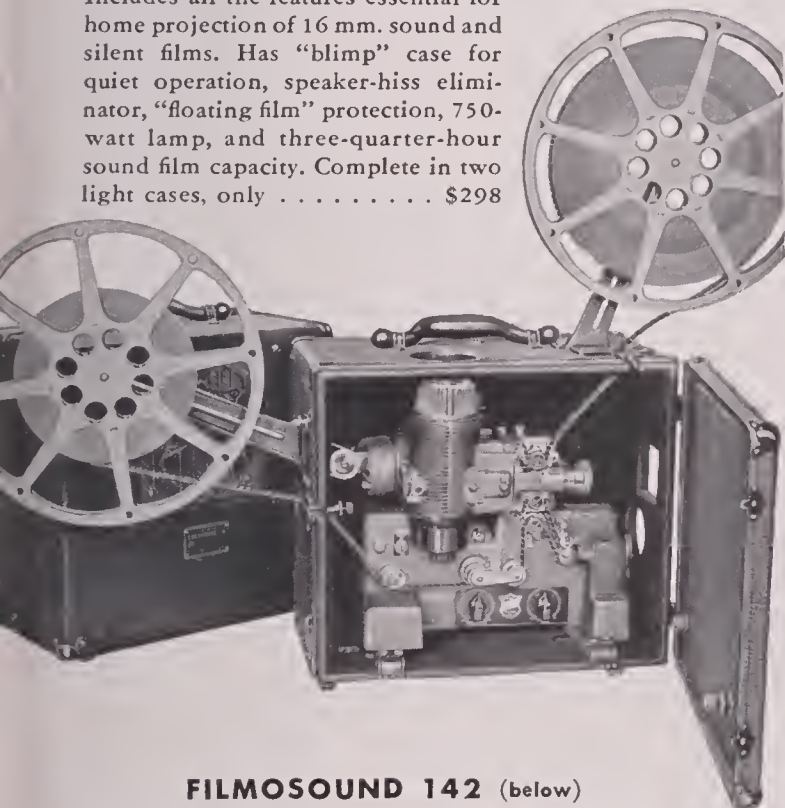


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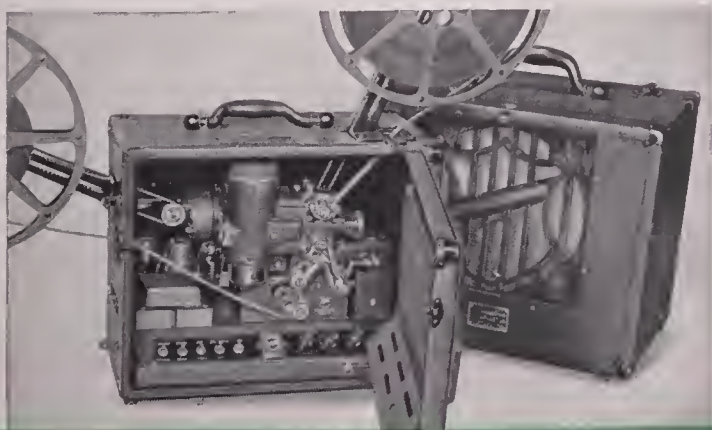
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Write now for complete details on these sound film projectors. Ask also for an up-to-date list of a *thousand* Filmosound Library films, including Hollywood features from M-G-M, RKO, Universal, and other big studios. Films are available for rental or purchase. Bell & Howell Company, Chicago, New York, Hollywood, London. *Established 1907.*

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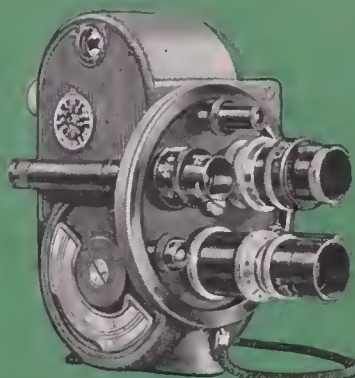
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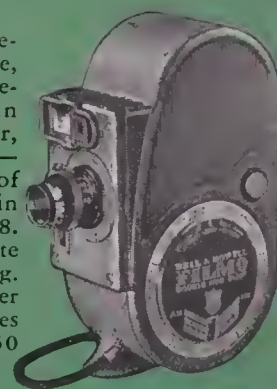
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March, 1939

No. 3

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THE FRONT COVER

JOE RUTTENBERG, A.S.C., is photographed by Pat Clark just after he has returned to his table at the Academy Awards banquet following his presentation of the symbol for the Best Photography for 1938. The picture was M-G-M's "The Great Waltz."

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RUTTENBERG WINS ACADEMY'S ANNUAL CAMERA AWARD

JOSEPH RUTTENBERG, A.S.C., was awarded honors for best photography in 1938 by the Academy of Motion Picture Arts and Sciences. The picture was M-G-M's "The Great Waltz," which incidentally was the second major photographic honor to be bestowed upon the subject.

The January issue of this magazine

told how the Hollywood Reporter's picture correspondents' poll had voted Ruttenberg's work the best of any film released in November. Also it told the story of how the future photographer was born in Lynn, that Massachusetts shoe town but eight or nine miles north of Boston.

It told how he was taken by his

parents to Chelsea, still nearer to Boston, when but six years old; how as a lad he was first employed on the Boston American as a copy boy. His pay was \$3 a week; how when he had been but a few months on the job he got a friendly tip he was to be let out that afternoon in a reduction of the force and how in his desperation he put wings on his feet for the remaining hours so effectively that instead of being fired he was retained with an increase of 50 cents a week in pay.

The story described how when it came time for a promotion and he was asked in what department he preferred to be assigned he promptly declared the photographic department; how for eight years he followed the trade of newspaper staff photographer, with its accompanying dangers and scoops and adventures.

Ruttenberg was lured from his newspaper work by an offer of the Boston opera company to join its staff as photographer. One of his first assignments was to accompany the troupe to Paris. When he returned he became interested in motion pictures and that interest resulted in his organization of a New England news reel for supplying of theaters of that region.

To Paris with Opera

In a short time he was engaged by William Fox to do regular production work in the New York studio. After being there ten years he came to Hollywood. He made one picture for Warner Brothers. That was three and a half years ago. Then he was engaged by M-G-M. He has been in the Culver City studio ever since.

There were three special awards by the Academy in the photographic field. First on the list was Color Cinematography, special award, plaque trophies—"For the color cinematography of the Metro - Goldwyn - Mayer production 'Sweethearts,' Oliver Marsh, A.S.C., and Allan Davey, A.S.C.

Special Effects, Special award, plaque trophies—"For outstanding achievement in creating the special photographic and sound effects in the Paramount production, 'Spawn of the North.'"

The men cited were: Special effects, Gordon Jennings, A.S.C.; assisted by Jan Domela, J. Dev Jennings, A.S.C.; Irmin Roberts, A.S.C.; Art Smith, A.S.C. Transparencies, Farciot Edouart, A.S.C.; assisted by Loyal Griggs, A.S.C. Sound effects, Loren Ryder; assisted by Harry Mills, Louis H. Mesenkop, Walter Oberst.

Special award, Scroll trophy—"For

Oliver Marsh, A.S.C., and Mrs. Marsh are shown at a table in the Biltmore Bowl during the festivities of the annual award banquet of the Academy. Mr. Marsh and Allan Davey, A.S.C., have just been awarded a special trophy "for the color cinematography" of the MGM picture, "Sweethearts."

Photo by Pat Clark



his outstanding contributions to the advancement of color in motion picture photography," J. Arthur Ball of the Technicolor Company.

The Research Council, with the approval of the Academy Awards Committee, bestows honorable mention for scientific or technical achievement:

To: Byron Haskin, A.S.C., and the Special Effects Department of Warner Brothers Studios, for pioneering the development, and for the first practical application to motion picture production, of the triple head background projector.

The method utilizes three projectors mounted on one center base, operating as a single unit and superimposing three identical pictures upon a single screen. This triple head projector provides greater illumination on present size screens, and permits the use of much larger screens in background projection, thereby greatly increasing the possibilities of process photography, in color as well as in black and white.

To: John Aalberg and the RKO-Radio Studio Sound Department, for the application of compression to variable area recording in motion picture production.

The application of this principle has resulted in a definite improvement in variable area sound recordings and has facilitated the use of this type of recording in the production of motion pictures.

The banquet was held in the Biltmore Bowl in the hotel of the same name in Los Angeles on the night of the 23d of February. Twelve hundred men and women and a couple of lads and lassies were among those present. Close packing was required and it was provided.

It is unlikely that in the long record of functions that have rated as a part of motion picture history there has been even one that in its attractiveness, its appeal to the eye and for that matter to the mind, in its spectacular quality, that exceeded the event of February 23.

Shirley Tops

One of the lassies was tops among the performers who did their stuff for the entertainment of the great audience. Shirley Temple added to her prestige

and her remarkable reputation when she was called upon to do the honors in bestowing an Oscar on Walt Disney. She was obliged to stand on a settee so she might with greater ease reach the microphone, which amused her but in no manner flustered her.

In fact, in the large house it is doubtful if any one other than Charlie McCarthy could have been paired with the charming miss without being at a disadvantage. When Shirley finally gained the required proximity to the mike she looked out over the bowl and casually inquired: "Will Mr. Disney please come up?"

The famed humorist-producer expressed his appreciation of the honor conferred. Shirley turned toward him and with the manner of the perfect hostess gave the assurance:

"And I am very happy to present it to you."

As the two returned to their respective tables the applause was about all that could be expected from twelve hundred pairs of hands. And it was a two way honor, for the one who bestowed and for the one who received.

Charlie McCarthy also contributed his quota to the fun. It was while Edgar Bergen, A.S.C., was functioning as master of ceremonies. The acting chairman

announced that honor had been bestowed upon a boy and a girl. The girl was Deanna Durbin, who very graciously and charmingly responded.

Charlie insisted on making a speech of acceptance for the honor to be bestowed on the boy. It took some time before Bergen could get over the fact it was Mickey Rooney who was receiving the award. Although Mickey was in the East he sent a telegram. Charlie declared he had been framed.

Bette Davis in briefly accepting her statuette insisted credit should go to Director Wyler, who had contributed so much to the making of "Jezebel." Fay Bainter also uttered few words into the microphone, but made them count.

Far and away the most dramatic response came from Spencer Tracy, who in accepting the award for the best actor performance declared his own lesser claims for the distinction and emphasized the great claim for the honor that belonged to Father Flanagan. It was a moving moment—and a very still house.

It matched the thrill that accompanied the opening incident of the evening's program: the singing of "The Star Spangled Banner" by Miliza Korjus, the woman who had contributed so much to the success of "The Great Waltz." It was something to remember.

NEW GADGET FOR AIDING CAMERAMAN—Ted Tetzlaff, A.S.C., photographer at Paramount on "Man About Town," Jack Benny-Joan Bennett picture, demonstrates the microphone which was designed by Haskell Boggs, his assistant, who is shown looking on. On the opposite side of the camera is the amplifier and tube box. The attachment allows the photographer to speak to electricians and actors while focusing his camera. Power on the microphone automatically cuts off when the blimp is closed. It is run off direct current and can be installed for \$75 complete. Photo by Hal A. McAlpin.



DEADLINE APPROACHING TO TENTH MOVIE PARTY

FROM New York comes word that steady progress is being recorded in the plans for the Tenth Annual Movie Party and International Amateur Film Show. Duncan MacD. Little, who has sponsored this yearly event since the beginning, is doing his utmost to assure his friends and supporters the program for 1939 will exceed anything that may have gone before.

Up to February 19, with the entries deadline of March 10 still three weeks away, there had been received offers of films to the number of twenty. Five foreign countries are represented in those offers. Three films thus far have been offered from high schools.

From the Polski Towarzystwo Fotograficzne of Warsaw came a cable dispatch upon receipt of a request for contributions that a film was being immediately forwarded.

Altogether there have been received thirty-two letters, two telegrams and a cable. In addition to printed and mimeographed letters and one press release there have been forwarded sixty-two letters. Innumerable telephone calls have been received.

The date of the Movie Party for 1939 is April 14 and the place is the Barbizon-Plaza Theater in New York. The engagement of the theater is made necessary by the continually growing demand for accommodation by the increasing number of persons becoming interested in amateur motion pictures.

Non-Profit Basis

Mr. and Mrs. Little, who have borne a major part of the effort and expense connected with the putting on of the shows in former years, have decided this year to place the tickets upon a subscription basis. Having no wish to do other than at least meet expenses and at the same time to guarantee the project shall be without profit, arrangements have been made to pay any surplus above expenses in full to the Peabody Home for Aged Women, in which New York charity Mrs. Little is much interested.

The request is made that films entered for the show be forwarded in time for them to be received on or before March 10 in order they may be examined by the appointed committee of experts. Following the selection of films designed to be shown on the program arrangements will be made for musical accompaniments. The following is reprinted from the formal circular issued by Mr. Little:

Instructions to Contributors

All films must be received in New York not later than March 10, 1939.

Films must be 16mm. and may be black

and white, or color. Reduction prints from 35mm. originals will not be accepted. They may be silent or sound (on film, or scored with records). If scored with records, detailed cue sheets, and if possible the appropriate records, should accompany the film.

It is requested that films approximate between 8 and 15 minutes of screen time. Exceptions to this will be made only for films which, in the estimation of the jury, are of such outstanding interest that others must be sacrificed that these can be screened.

Films should be addressed to Duncan MacD. Little, 33 West 67th Street, New York City. Carrying charges to New York must be prepaid.

No specific method of shipment is stipulated. Each shipper will use his

best judgment about this, and about method of packing. Generally speaking, registered parcel post would seem best.

As in the past, arrangements have been made for adequate insurance on all films accepted for showing or for consideration. To be eligible for this insurance, the shipper must notify Mr. Little of intention to forward a film (or films) and receive confirmation in return. Insurance will cover "all risks" as commonly understood in New York insurance circles, and will apply from time of original shipping by the sender, until final receipt again by him.

Valuation will be stated by the shipper, but not to exceed fifty cents per foot, 16mm.

While in our custody films will be handled by experienced projectionists only, and every care will be taken, but naturally neither Mr. Little nor his assistants can assume responsibility for unforeseen accidents.

All films will be returned by prepaid parcel post, within a reasonable time after the show.

REAL POPULAR INTEREST IN THESE DOCUMENTARIES

ON the evening of February 25 members of the Hollywood Motion Picture Forum were given a treat in English documentaries—several of them in fact never having before been shown in the United States. The meeting was held in the Bell and Howell Auditorium at 716 North La Brea avenue. Mrs. Leo B. Hedges, vice president of the organization, was chairman of the evening, with Walter Evans, secretary, in charge of the arrangements.

Added interest was given to the meeting by the showing of "Moods of Nature," which won an award in the American Cinematographer's contest of 1935, a fact responsible for the desertion by Paul Burnford of England, its photographer, of the amateur for the professional ranks.

Coincidental with the showing was the presence at the meeting of Burnford, who is visiting in Los Angeles at the present time. Shown also, however, were three other subjects, all under the banner of Strand Films of London, with which company the maker of "Moods of Nature" for a long time has been affiliated in the capacity of director or photographer or both.

Also present was Miss Marie Seton, film writer for the Manchester Guardian and one of the leaders in the English documentary film movement. Miss Seton, who is steeped in the brief tradition of documentaries, talked most interestingly and informatively of the progress that is being made in England in the making of non-theatrical films.

Really, though, judging from the three examples of English documentary production that were shown on the screen at the Bell & Howell auditorium, especially with the brilliant projection that is provided for 16mm. at this hall, non-theatrical distinctly these films were not. Rather, distinctly they were of theater interest, of abundant theater interest.

They possessed the quality that would make them rate more highly in a theater of distinction than they would in a house that lacked that particular standard. But here is the program outside of the 1935 contest subject already mentioned:

"The Statue Parade," Strand Films, London—Paul Burnford.

"Free to Roam," Strand Films—Paul Burnford.

"Cover to Cover," Strand Films—Paul Rotha.

"Street Car," Albert Bailey, U.S.C., '38.

"Mexican Arts and Crafts," ERPI classroom films—John Haessler.

The first named was founded on shots of the statues in London, many of them well within the knowledge of persons who never had been within thousands of miles of that great metropolis. The picture of course was in sound, with a running commentary on the identity and history of the statues being photographed.

"Free to Roam" was the story of the London Zoo, in which the animals of the prairie and the jungle are given 500 acres in which to roam as do their

(Continued Page on 135)

AUGUST'S 'GUNGA DIN' TAKES JANUARY AWARD

By GEORGE BLAISDELL

FOR his photography on RKO-Radio's "Gunga Din" the Hollywood Reporter's poll of critics for January gave the nod to Joseph H. August, A.S.C. The fact it was a close vote was overborne in a measure by its competitor, "Jesse James," being in Technicolor. The latter's photographers were George Barnes, A.S.C. and W. Howard Greene, A.S.C. For December two Technicolor subjects were registered with the critics before a black and white picture appeared on the board.

As "Gunga Din" is a black and white subject it becomes something of a matter of news when it wins the critics' poll for photography over a color picture. And those who have been privileged to look on the screened "Gunga Din" will be inclined to agree with the critics that Joe August had something unusual in the way of "stuff" on his negative on that picture.

It is not often the theatergoer is impelled to remark after looking at the un-reeling of a picture: "Just a minute: this man has got something here."

That could have happened on "Gunga Din." The casual theatergoer is so accustomed to looking at excellent photography, to having it served to him as a regular dish, that it is only the striking exposure and setting that make their presence known.

That is the way this reporter felt when he looked on these exterior shots of the Kipling tale. There were present striking shots: outstanding shots, the kind that stick out, like a thumb that has gone too often to the hammer.

Doesn't Use Meters

This may be perhaps a good place to set down the fact that Joe August is not a user of meters. That gradually is getting to be more a matter of news than it was a short time ago, for the number of non-users seems to be growing less and less.

"Don't get me wrong on that," suggested August when the reporter displayed genuine interest in the fact he did not employ a meter. "I am not against meters, by any means. They

just don't fit into my plan of taking pictures. The meters I lean on are my eyes. When I first started in this business twenty-eight years ago I had a preceptor I then thought sort of tough: tough because he was insistent on my learning what could be accomplished with a pair of eyes and a man with scant patience for any devices that aimed to make those organs secondary to any human invention.

"Then again frequently I choose to make an exposure that—well, we will call it an unorthodox exposure, one aimed to produce a certain effect that may be desirable. For instance, the negative

might be overexposed and underdeveloped—or the procedure might be reversed.

"Yes, of course, and especially it would be necessary to tip the laboratory if it so happened the lab were one in which a cameraman could take what some might consider liberties these days.

"I recall that same preceptor of mine down at Inceville in the beginning. There was a device at that time designed to obtain for the cameraman something parallel to what a meter would provide today. I was told with considerable detail and even more emphasis just what fate would befall me



Joseph H. August, A.S.C., while photographing Republic's "Conquest of Men," is visited by Joan Fontaine and Richard Dix, just out of a scene in the picture, who congratulate him on his winning the Reporter's photographic poll for January.

if he ever found me fussing with one of those gadgets. Yes, it was known as the illumination system.

"It was just after that interview I began seriously to cultivate attention to my eyes with the object of learning as much as possible of what I could accumulate in the way of optical knowledge."

Inceville in 1911

It was in 1911 August went to work for Tom Ince at his plant in Inceville. It happened the reporter had been on that lot down by the sea in 1915, and consequently had a recollection of that Santa Monica location. Inquiry brought out that where the present Sunset Drive emerges from the hills and drops down to the ocean the highway passes over the site of Bill Hart's dressing room.

Things moved fast in camera departments in those days. The young assistant was on his job but five months when he was elevated to first camera. Yes, it was different then.

Bill Hart came to Inceville about 1914. It was not long afterward August was called in to complete a picture in which Hart was working. He remained for fifty-eight more—very nearly the entire schedule of pictures bearing the name of Bill Hart. There were but three others afterward. Two of these were "Tumbleweeds" and "Wild Bill Hickok." It will interest men of the camera to know that August never carried a reflector with him in the seven years he made Hart pictures. There was a rarely used white sheet.

With both Hart and Ince the relations of August were of unusual cordiality. There was an exception in the case of Ince on one occasion. That was when the young cameraman, concededly stub-

born and certainly pugnacious, came to blows with his boss.

"No," replied the cameraman to a question from the reporter, "I didn't get fired, nor was anything said in that direction. Tom Ince was regular. We never had any more controversies that amounted to anything. But he did like to 'kid' me. And plenty of times he did that, too. Sometimes he was joking when he seemed to be serious.

"I recall one time when he asked me if I thought I could change a horse into a cow—on the screen. I told him I thought so. But I had to stay out of bed one night to do that. But what a lot of other problems, future problems, were solved that night I put in on that switch."

The cameraman described how his fondness for doing tricks with a camera and film led him into the virgin field of miniatures—and into a mighty bad two or three seconds.

When the Cow Entered

He wanted to portray a sinking boat. On the Inceville lot not far above salt water was a lagoon of fresh water that had accumulated from a recent rain. To a toy boat he tied a cord to its keel. He so arranged the string that at a certain point he could pull on it and the boat would follow it—just down—and submerge. Anxious to note how it would work on the screen he took it into one of the Santa Monica theaters and asked the operator to splice the film on to the end of a short. It may be explained that "dailies" or "rushes" had not come into vogue at that time.

When the film appeared August was all attention. The same was true of the whole house. It looked utterly convincing until just as the boat was sinking

beneath the waters there suddenly appeared on the opposite shore of the lake and off to one side of the boat the enormous nose of a cow pushed into the water for a drink.

Only a small part of the audience saw the cow. The attention of the great majority was on what was happening to the boat. August saw it, however. The others who saw it did not also sit silent. With unanimity they screamed. All around, it was quite a sad evening.

Lighting Basis the Same

August from the first has been a disciple of low key lighting. In the beginning it was a matter of necessity—lamps were in a manner of speaking a luxury. One of his great problems in the beginning was to get everything out of a lamp that might be in it. It had to be placed where its illuminating power would count the hardest.

"Many things have changed during the rise and development of the picturemaking industry," the cameraman remarked, "but the basis of lighting seems to be about the same as it was in the beginning. Even with the present era of fast films it remains practically unchanged. I have at home a still of a set exposed in 1913 which seems basically about what we are using today."

Younger cameramen may be interested in the number of lamps August had at his command during a part of the seven years or so in which he was shooting the Hart subjects. Fourteen was the average, he has a very distinct recollection. In those days his generator rarely was of more than 500 amperes capacity.

In the making of "Gunga Din" there was one set with an area of 600 by 1750 feet which was lighted with a generator having a capacity of 12,000 amperes.

In the photographing of "Man of Conquest," for which August is at present under contract to Republic, the camera crew were making rapid arrangements for taking another scene at the close of the day. One of the best and incidentally one of the most popular of the Western character actors approached the cameraman, by his manner plainly very much concerned.

"Listen, Joe, you're not going to put me into that picture at this time of day, are you?"

Assured that was the intention, and that as a matter of fact there remained plenty of light, the actor replied: "I can't believe it. I've worked in a hundred and more of these pictures and I've seen crews pack up when there was a lot more light than this.

"Now this scene means a lot to me



At the base of Mount Whitney in the High Sierras RKO Radio's company prepares to film major battle scenes between British troops and bandit thugs for "Gunga Din." Photo by Alex Kahle.

and I'm plenty concerned that it is right. You say it'll be right. I'm telling you if it is there'll be a case of the best Scotch waiting for you at your home tomorrow night."

"Never mind the Scotch, but take a squint at the dailies tomorrow," suggested the cameraman.

The case of Scotch arrived at his home the following afternoon.

Fishing Trip Postponed

In "Music for Madame," the Martini picture, the scene portrayed at the Hollywood Bowl with its 20,000 seating capacity, was sufficiently illuminated for photographing with a generator of 1700 amperes.

August particularly expressed his appreciation of the work of Frank Redman, A.S.C., his aid on "Gunga Din." He has been associated with him for a couple of years.

Others on the picture were Charles Burke, Billy Clothier, Eddie Pyle and George Diskant, operative cameramen; Charles Strumar, Joe August Jr., Ledge Haddow and Billy Reinhold, assistants; Alex Kahle, stillman.

At the conclusion of the RKO produc-

tion August had intended going to his ranch near Denver and remaining until about March 1. He has a place of thirty acres up 8500 feet above sea level. There's a matter of something like fifty cattle, but what really counts are the trout.

Some years ago he set out to create the best trout hatchery to be had. He has more than measurably succeeded. He has Rainbow that will measure—well, just ask him. What he planned for a hobby has developed into an investment.

But as he was getting ready to slip out to get a piece of that 8500-foot atmosphere in winter he was tagged by Republic to take the camera on "Conquest of Men." Nothing doing, he said. I'm going fishing.

He was asked, sort of casual like, what would change his mind.

Without giving any thought, apparently, he named a figure which he was quite sure would terminate interest on Republic's part.

"That's quite all right," was the unhesitating answer. "You're working."

And the cameraman suddenly realized he was not going fishing—at that time.

numerous operations necessary to the handling of truck freight from the time it is picked up at the shipper's door and delivered to the consignee's door in another city.

The use of natural color is particularly effective in a series of beautiful exteriors of the large red freight trucks traveling through city and town, over desert and mountains, in making the runs on their routes.

Besides these productions, an organization sponsored by Dr. Boris V. Morkovin, known as Delta Kappa Alpha, has been contemplating for some time a 16mm. production relating to the tourist advantages of the Los Angeles area, but so far this group has not evolved from the preparation stage.

Dr. Morkovin also has been planning a 35mm. sound picture relating to the work of the deaf, but this also has remained in the planning stages. It is not yet entirely clear how sound will be employed in the deaf mute's picture.

The only 35mm. work of the semester has been a short subject entitled "Oddities in the Law," the production being the work of this writer. The subject deals with unusual or outmoded laws still on the statute books. The picture portion of the production is now complete. The recording of a commentary, musical score and sound effects will be completed by March 15.

The picture was shot "silent" and the completed production will follow closely the usual commentary-effects style of the novelty short subject. It runs eight minutes, the usual professional short subject time.

The second semester of the school year started February 10 with the usual staff offering courses in a variety of motion picture production subjects. The best courses are held at night and taught by men actually working in the studios. These popular and practical courses for the second semester include sound recording, editing and cutting, cinema music, distribution and exhibition, production and camera technique.

JACK V. WOOD, S.A.C.

As of January 1, 1939, there were approximately 92,816 motion picture theaters in 96 countries throughout the world as compared with 89,097 theaters on January 1, 1938, according to a world market survey just prepared by Nathan D. Golden, Chief of the Motion Picture Division of the Bureau of Foreign and Domestic Commerce, an increase of 3,719 theaters for the year. Wired theaters during the year 1938 have increased by 3,358. On January 1, 1939, 66,362 theaters were wired as compared with 62,895 theaters wired as of January 1, 1938.

Out of the total number of theaters operating in 1938, Europe accounts for 63,043 as of January 1, 1939, with 37,578 wired as against 59,187 theaters with 34,819 wired and operating on January 1, 1938.

FIRST SEMESTER AT U.S.C. ACTIVE IN CAMERA WORK

The first semester at the department of cinematography in the University of Southern California ends finding a number of student productions either completed or nearing the final stages of production.

A 16mm. production depicting the dancing classes in the department of physical education has been produced, with the co-operation of that department, by Donald Duke, a cinematography major.

The picture deals with interpretative dancing, taking the subject from the early stages of exercise routine for beginners, and finally presenting in color a final complete dance sequence. Duke's production, while completed, will not be presented publicly until March 1, when it is slated for formal presentation by the dance division of the physical education department. After that date it is slated for later televising over the NBC New York City outlet.

Lee Carroll, an advanced camera student, has completed a 400-foot 16mm. photoplay entitled "Soapy's Bench." The picture is based on a famous O. Henry yarn concerning a tramp wanting to get pinched in order to have a warm bed and a full meal. All players were either students or actual police officers from the University Station, who cooperated in supplying realistic arrest scenes.

Besides handling the production "Soapy's Bench," Lee Carroll has been

doing independent research on the 16mm. negative-positive system, and it is significant that he has been successful in producing 16mm. prints declared superior in quality to anything obtainable through the regular local laboratories doing 16mm. negative-positive work.

Bob Rogers, a graduate student, is in production on a 16mm. subject entitled "NYA Activities at U.S.C." This picture deals with the multitude of work carried on within the university by students receiving aid from the National Youth Administration, a division of the Works Progress Administration of the government.

Rogers' picture will depict in documentary style the variety of activities the university is able to carry on because of this government aid to students. The students work in university projects not within the ordinary university budget, thus giving aid to the university for the funds received from NYA.

Robert Duntley is in final editing of an all-color 16mm. production on the trucking industry, featuring the system of the Pacific Freight Lines. This picture takes a truck driver from the time he is first hired by the organization and follows him through the company until he is sent out on the road, a part of the vast motor freight system.

Duntley has been able to weave an interesting continuity throughout the

SETTING 1938

CONTEST

WINNERS

TO MUSIC

By WILLIAM STULL, A.S.C.

SOME four or five years ago the then editor of this magazine first asked me to delve into my record library to produce musical scores where-with to accompany the local showings of the winning films of the annual American Cinematographer International Amateur Movie Contest. Largely as an experiment I described those scores in an article.

At that time the use of phonograph record scores for amateur films was something of a novelty. Since then an increasing number of clubs and individuals everywhere have experimented with this type of presentation and found that it adds the final touch of completeness to a good picture.

Many clubs, like the Los Angeles and New York 8mm. Clubs, make it a point to provide musical accompaniments for all films shown at their meetings. In some cases—as in Duncan Little's celebrated "Movie Parties"—accompanying scores have become almost as important as the screen fare itself. What was once a rare novelty has become an accepted necessity.

Therefore in presenting my scores for the winners of the 1938 International Amateur Movie Contest but one word of explanation is necessary. This is that since the records were chosen from my own record library, which is fairly extensive, some of the scores may have to be modified to get around the use

of imported discs or some domestic ones which (as I learned when I cracked one of mine!) have been dropped from current catalogues.

The selections listed here should, however, serve as a guide for any club or individual wishing to score the prize films.

"Nation Builders" All-British

In scoring James Sherlock's grand prize winner, "Nation Builders," I discovered, when more than half through with the task, that I had by accident turned out a score singularly appropriate to a film based on the history of an important member of the British Commonwealth of Nations, for with one or perhaps two exceptions I had chosen music composed, played, directed and recorded by Englishmen; and even the exceptions were British renditions!

The opening record was one of those exceptions: "Mors Et Vita — — Judex," by Gounod, played by Lawrance Collingwood and the New Symphony Orchestra on H.M.V. (British Victor) record No. C-1969.

As the double-exposed title "Travail" appears the music changes to "Elegy (Thoughts on Passing the Cenotaph)," from Albert W. Ketelbey's "Cockney Suite," recorded by the composer and his orchestra on British Columbia No. 9861.

Another double exposed title, "Governor Macquarrie, Roadbuilder," is the cue for the next music change, to another of Ketelbey's compositions, "The Ploughman Homeward Plods His Weary Way," from the suite "Three Fanciful Etchings," recorded by the composer on British Columbia discs 9406 and 9407.

Both discs are played through in succession. This is followed by Sir Arthur Sullivan's "In Memoriam," played by Dr. Malcolm Sargent and the New Symphony Orchestra on H.M.V. No. C-1992.

Another title, referring to a garden party, is the cue for changing to Sir Edward Elgar's "Minuet" from the suite, "Beau Brummel," recorded by the composer and the London Symphony Orchestra on Victor record No. 9472. For our British readers this disc is also available in its original H.M.V. pressing, though I do not have its number.

The flaming title "1914," introducing the Great War sequence, is the cue to change to Elgar's "Pomp and Circumstance March, No. 2," played by the composer and the Royal Albert Hall Orchestra on Victor No. 9016. This is followed by another disc from Ketelbey's "Cockney Suite"—"A State Procession (Buckingham Palace)," played by the composer and his orchestra on British Columbia No. 9860.

This in turn is followed by "Le Reve Passé" (Krier & Helmer), played by



*William Stull at the turntables of the Los Angeles 8mm. Club.
—Photo by James B. Ridge, L. A. 8mm. Club.*

Lieutenant B. Walton O'Donnell and the British Broadcasting Company's Wireless Military Band on (American) Columbia No. 50272-D, and of course also available on the firm's British list.

The final record in the score should for best effect be rather well synchronized with the concluding action, so if possible a rehearsal should be held beforehand, to check on projector speeds. In my own case I found the best cue for the change was a shot of city street traffic in which a big truck labeled "Ogden Bros." is prominently seen as the policeman holds up traffic.

This concluding record is Elgar's "Pomp and Circumstance March, No. 1," played by the composer and the Royal Albert Hall Orchestra on the reverse side of a disc previously played—Victor No. 9016. If projector and music are properly in step, this disc synchronizes almost perfectly with the cutting of the closing sequences of Sherlock's film, and furnishes a most appropriate climactic theme.

Mexican for "Vida Pacoima"

For Randolph Clardy's "Vida Pacoima," the only logical choice must be Mexican folk-music. It so happens that in my own collection this music is best represented by organ recordings.

This, in turn, has proved an advantage, for it keeps the accompaniment soft and pleasing, avoiding vocal interludes, which are always bad in picture music, and at the same time works well with the church sequence which naturally demands quasi-liturgical organ music.

The opening selection is "Las Quatro Milpas," Mexico's most famous folk-tune, played by Sigmondo del Oro on Victor 46181. As we see the cross atop the village church reflected in a pool of rain-water, the music changes to Massenet's "The Angelus," played by organist Lew White on Brunswick No. 20083.

As we fade out on the church put this record aside (it will be used again!) and play "Uruapan Hermoso" by Ignacio M. Valle, recorded by Sigmondo del Oro on Victor 46253.

As the picture fades in on the se-

quence in which the worshippers are seen coming from the church we repeat "The Angelus." At the end of this sequence, indicated by shots of people going toward a cottage in a scene framed through the branches of a pepper tree, followed by a fade-out with an unusually long black-out where Clardy breaks the film into two reels when it is not mounted on his special 400-foot 8mm. reel, the music changes to Valle's "Amor Sin Esperanza," recorded by organist Del Oro on Victor 46428.

This is played through and followed by either Jesse Crawford's recording of "Secreto Eternal" by Jose Perches Enriquez on Victor 80110, or Del Oro's "Viejo Amor," on the other side of Victor 46428, which has just been played.

To my mind, the latter is more appropriate; but to avoid the musical dead spot while the record is turned over, I would suggest using the Crawford record momentarily to fill the gap. The final selection, which should be started at some of the later shots of cactus, is a repeat of "Las Quatro Milpas."

Modern Music for "Chicago"

The dominant note in "Chicago, Vacation Center of the Nation" is typical, Chicagoesque bustle—so the music must, for the most part, bustle too. Somewhat "modern" music is therefore indicated. The opening sequence, however, is on the idyllic side, showing dawn on Lake Michigan and the Chicago River.

Nonetheless, the music selected to open the score could be classed as musically "modern."

It is "Gymnopedie No. 1," by Erik Satie, orchestrated by Debussy and played by Serge Koussevitzky and the

Boston Symphony Orchestra on Victor 7252. (Many of you may have this and not remember it, as it is on the reverse of Part III of the Victor three-side recording of Ravel's "Bolero.")

As a title introduces a new sequence, telling how "Chicago's Thousands of Workers" hurry to work, we change to Rachmaninoff's "Prelude in G Minor" in a modernistic—almost jazzed—arrangement by Jack Hylton and his Orchestra on H. M. V. No. C-1864.

As I have hinted, one of my pet taboos is one against breaking the continuity of a score by turning a disc over—a practice which always results in a musical hiatus of several seconds.

Luck was with me in this particular score, for I managed to get around this problem here, if even by an expedient which would drive a musician to drink! The next disc to be played is Part I of Serge Prokofieff's "Classical Symphony," played by Koyssévitzky and the Boston Symphony on Victor 7196.

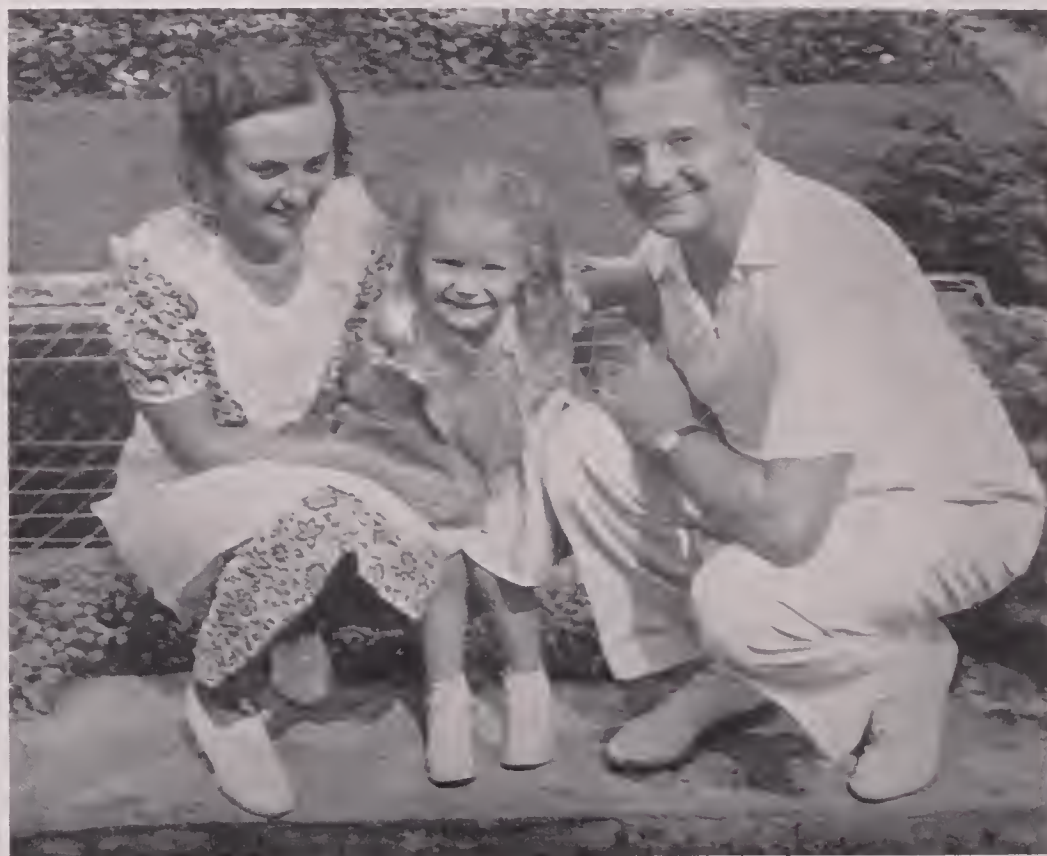
This is followed by Part III of the same piece, on Victor 7197. Finally, with the title about the "Buckingham Memorial Fountain" as a cue, we change to Part II of the same piece, on the unplayed side of Victor 7196. Oddly enough, this misconstruction of the symphony is more filmically appropriate than is the same symphony played through in its proper order!

The recording of all of the music and choral sequences for the New York World's Fair film, which will be shown at the Perisphere, was completed last week by RCA.

A 55 piece orchestra under the direction of Andre Kostelanetz and a male chorus of forty voices made the sound tracks in the Movietone News Studio.

Here are the winners of the award in the Home Movies division for the 1938 contest of this magazine. The title of their film was "Santa Visits Elaine." Here is Elaine with her mother and father, Mr. and Mrs. John E. Pohl of Cicero, Ill. The photograph was exposed by S. F. Warner, editor of News Flashcs, publication of the Chicago Cinema Club, of which organization Mr. Pohl is a member.

Members of the family of American Cinematographer readers undoubtedly will agree with the editor that this picture possesses unusual significance as representing a "home" movie—the home that stands behind the movie. Just to make it more representative it may be stated Elaine possesses a bank account book with the fifty-dollar prize duly entered.



FILM PRODUCTION IN BRAZIL

By WILLIAM BURTON LARSEN,
PRODUCER

DURING my recent visit to Brazil I took the time and trouble to find out what was going on in the largest country in the Western Hemisphere as far as the motion picture business is concerned.

Rio de Janeiro is the hub of the Brazilian motion picture industry, boasting of two or three major film producing companies, headed at the present by Cinedia Studio.

Cinedia Studio is located on the outskirts of Rio far enough away from too much noise of the city. Like every studio the Cinedia is surrounded by four high walls and only one entrance, which is heavily guarded. Entrance is secured only with the aid of a pass from the city office of the studio.

The entire production plant is within

these four walls—studios, sound recording rooms, laboratory, dressing rooms for actors, sound stages and projection rooms.

A visit to the studios is an experience. You will see a group of actors outside of the studio door taking time out for a smoke, while scenes for the next sequence are being prepared inside the studio.

Features American Performers

"Black Diamonds" was the title of the film on the sound stages during my visit. It was a story of the Matto Grosso Country, in the wilds of Brazil. There was plenty of fighting and furniture breaking.

The film was featuring some American theatrical performers, known to

American vaudeville, Frank Mazzone and his troupe. Opposite Mazzone was Gypsy Abbott, also well known on Broadway but not so well known in Brazil. As a matter of fact it seemed strange that they would make Portuguese dialogue films with American performers who could not speak a word of Portuguese.

Luis De Barros was the director and production manager. Barros lived in Hollywood for several months to absorb some knowledge about the film business and production technique, in order that he could produce Brazilian films. Much of that technique was quite in evidence on the set. Lighting arrangements, camera set-ups, etc., even the familiar "camera, action, lights!" only in Portuguese, and the sound recordist's howl for "silencio, por favor!" (Silence, please).

The camera (one and only) in use was an old model Mitchell camera, well boxed up so the motor noise was minimized. Because there was only one camera and one cameraman it was necessary to change angles every five minutes, the actors having to hold some pretty delicate and sometimes dangerous positions till the cameraman set up for a different angle shot.

The camera was mounted on a special Brazil made dolly, the tripod being a pneumatic air compressed dentist chair.

All the scenes for a certain sequence were being shot before they broke up the furniture for the big fight scene.

The film after it was photographed was rushed over to the Cinedia Laboratory on the grounds for it to be developed. The laboratory has a complete DeBrie printer unit and complete DeBrie developing machinery.

Cinedia Has Newsreel

The Cinedia outfit maintains a weekly newsreel of events. Some are exciting and some very dull. One reel I saw in the theatre was similar to our American newsreel, with a spectacular fire, review of the navy, a section by President Vargas of Brazil and a thrilling auto race to the top of a mountain.

Brazilian films, no matter how weak, are assured a definite market by a government decree stating each theatre must run a percentage of its program so as to include so many reels of local made film.

As a result many so-called "producers" sprung up overnight. With a cam-

(Continued on Page 134)



Gypsy Abbott (left) and Frank Mazzone (right), American theatrical performers, in a love scene from the Brazilian film, "Black Diamonds." Directed by Brazil's ace director, Luis de Barros. The film was produced in the Cinedia Studios of Rio De Janeiro

Photo by William B. Larsen

FIXING UP FAMILY FILMS

By ORMAL SPRUNGMAN

Photographs by the Writer



Here is a title card saver for your Family Album reel. A rectangle is cut out of the center and name of person and date of filming appear on smaller strip which is raised or lowered behind mask opening.

MOST popular, yet worst edited, of all amateur-exposed movie footage are the family reels, those ultra-candid closeups of the young heir, "gramps," and all the relatives, which somehow manage to steal a prominent spot in personal film libraries.

In most cases, the usual catch-as-catch-can attitude toward family filming leads to haphazard methods of editing or no editing at all. Consequently, audiences either become bored with slipshod screenings, or are deprived completely of the pleasure of seeing footage which could easily be revamped into really entertaining stuff.

Let's assume that your holiday films are still in their original shape, showing close-ups of colorfully packaged Christmas gifts, long shots of the Yule tree, medium views of the family itself. In its present form, perhaps the stuff's not so bad since you took special pains to watch continuity as you filmed.

But here and there are scenes slightly over or under exposed which should be eliminated, others which demand a change in order. So the splicing block is produced. If you don't own a movie frame viewer, a powerful reading glass will help to identify puzzling scenes.

Describe Contents

Lay out the reels for screening, designating the number of each reel at the top of a clean white sheet of typewriter paper. Devote one sheet to a description of the contents of each reel, which may run something like this:

CU Unopened Christmas gifts under tree
MS Grand-dad lighting pipe
CU Food on table
CUT Rapid panoram across ceiling
LS Guests being seated at table
MS Opening packages
LS Yule tree
CUT Underexposed shot of tree ornament

CU stands for closeup, MS for medium shot, LS for long shot, while

CUT means eliminate or throw out. Naturally, your scenes will be far more numerous and varied, but keep their descriptions down to minimum wordage. Speedwriting or shorthand might find usefulness here.

When you have made a complete record of all the scenes in the reels at hand arrange the pages in order for study and try to recreate a mental image of the way your continuity will flow. Then pencil the numerical order in which each scene will find its place in the finished film. If later changes are necessary it is a simple matter to cross off or erase preceding numbers and set down a new sequence.

Make Editing Board

To speed up his work and make editing still more orderly, make an editing board by boring a dozen or more two-inch holes in a pine slab and numbering each hole. As each sequence or scene is cut out of the original film roll up the footage and drop in its hole. As the roll unloosens and spreads it snug-gles up firmly against the wall circumference.

Equally as good for footage holders are egg cartons, typewriter ribbon boxes, compact cases and even nail hooks. If you don't care to tinker you can buy inexpensive editing boards from your local camera dealer. One editing rack now being offered* consists of sixteen such circular holes laid out neatly on a sloping board.

Along the right hand side is a film record pad, and as each sequence is slipped into its numbered hole its description is set down opposite that number on the printed list. Special footnotes or editing directions may be added at the bottom of each blank.

While some amateurs may prefer splicing as they go, there are still others who like to tie up the cutout scenes temporarily by affixing Scotch tape to the ends, and then do the splicing all

* Edit-Rack: The Stahl Company, Belding,

at once after the titles have been prepared and photographed. Either procedure has merit.

I, for one, prefer to splice as I edit. In this form, the final film is projectionable, and quite often I see possibilities for changing sequences or cutting out scenes while I am screening the footage for title work.

Saves Duplication

Likewise, some folks like to splice their short reels on to 400-footers before editing as an aid in projection. I still prefer to screen and edit the shorter stuff as it comes. It saves duplication of effort.

Among your own acquaintances you probably know of amateurs who edit so broadly that they even leave in the perforated numbers at the beginning and close of reels in order not to waste footage.

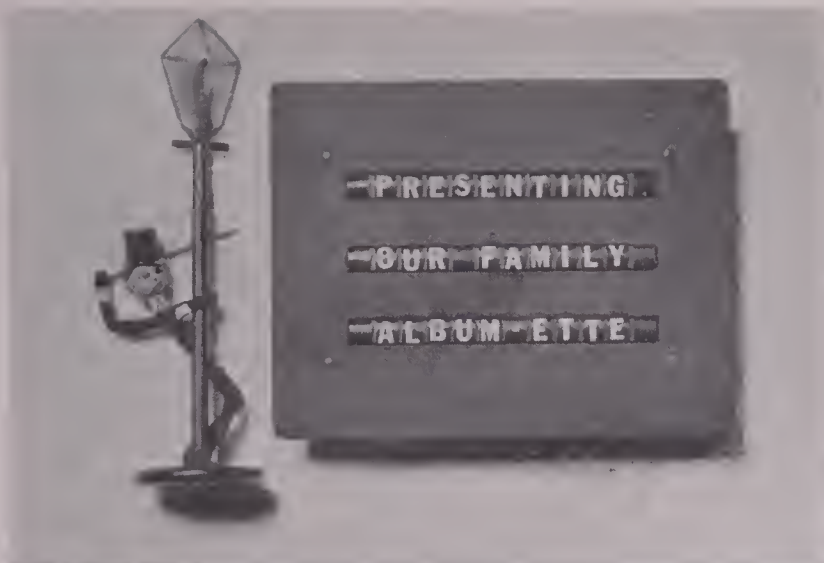
While not all scenes which misfit the current film specialty need be discarded permanently, nevertheless all blurred, out-of-focus, and poorly exposed scenes should be thrown out of every family reel. They add nothing to the film. In fact, they even detract from the more superb stuff. The only exception might be those pot shots of relatives or close friends of the family, shots which never can be duplicated.

Family reels may be handled either personally or popularly, and your titles will depend on the treatment you plan for your films.

First, let's consider the *personal* slant. This follows the lines of least resistance, for no extensive title writing is needed. You can even employ label titles, if you like loafing!

Since one never knows at the outset how much family footage will finally accumulate, it is usually good practice to adopt a uniform title.

The one which we might use could easily be called a title-saver. It consists of black cover stock, size 9 by 12 inches, out of the center of which a 2½ by 5 inch rectangle is cut with a sharp knife. The open frame is outlined in white with



This new title-builder composes words and sentences simply by dialing each letter by hand. A suggested title is shown with dime store character filmed against threadbare towel.



Rear of the new title-builder showing three rows of 12 wheels, each of which operates continuous ribbon on which 42 characters are imprinted.



For systematic editing, this rack has film strip holes for temporary storage during cutting. Description of each scene is written on film record pad at right opposite proper hole number.



Lettering white-on-black title cards for reversal filming. For wobbly printers, special lettering guides and tracing alphabets are available.

a not too elaborate scroll work and the words, "Family Album Edition."

The title inscription itself is lettered on a black cardboard slide, which is slipped into position behind the opening when the entire title card is set up for shooting. The use of the rectangular opening permits the printing of many title wordings on each side of the slide without need for making additional masks.

Speeds Up Filming

This form of titling speeds up filming, for once the mask is properly framed on the title board the rest is simple. With a one-inch camera lens the title board on which the title card is thumbtacked is located two feet away, lighted either by photofloods or direct sunlight outdoors.

Even the title stand used in filming is strictly homemade. This consists of an elevated base on which the movie camera is mounted. Approximately two feet in front of the lens, a regulation drawing board is held vertically by means of angle irons and bolts. The cards are mounted on the drawing board. The entire portable unit is made of $\frac{3}{4}$ -inch pine.

If you have difficulty in centering title cards with your particular outfit here's a suggestion. Prepare a white card ruled uniformly with horizontal and vertical black lines. Place the card on your title board and photograph in the customary manner.

When the film is developed, inspect a single frame under a powerful glass or project on a screen, count the number of lines revealed, and you will have the scope of your camera for title work.

Another favorite among careful amateurs is to place a midget, battery-connected flashlight bulb in the film gate behind the opened camera shutter, and sketch the exact size of this dim beam projected on a white card at the closest focusing distance.

For greater accuracy, insert a small piece of roughened celluloid between aperture and bulb for diffusion.

Helps on Titles

If reversal film is used, letter with white ink on a black background, but if positive film is employed select black ink on a white background.

Even 8mm. fans will be glad to hear that double perforated 16mm. positive film, center scored, is also available for their use in titling at a price much below the cost of reversal film.

Suppose your arm has grown a bit too wobbly for legible lettering. One New York firm* already has come to your rescue, offering complete sets of movie titling charts which enable any amateur to trace any size or shape letter pictured to give a homemade professional touch.

There are twelve complete artistically

* Jacob Stein, 175 Fifth Avenue, New York City.
(Continued on Page 116)

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*Front elevation of Cinecolor Laboratory
in Burbank.*

CINECOLOR OPENS BURBANK PLANT

AN EVENT of importance in current film history is the formal opening this month of Cinecolor's new plant in Burbank. Erected on a site over three acres in size, the actual building covers 45,000 square feet of space and is possibly the most modern and novel color laboratory in existence. Architect Robert V. Derrah designed the ultra-modern, concrete reinforced structure, consisting of one story and basement.

Incorporated in the new quarters are facilities and equipment which are destined to bring new accuracy, flexibility, economy and speed to Cinecolor's recognized process. Almost as important, Cinecolor's new facilities will enable it to turn out film at the rate of two million feet a week! The cost of equipment exceeds \$150,000, while the actual cost of the building is approximately \$125,000.

Cinecolor's technical department is

under the capable direction of Alan Gundelfinger, well-known for his past exploits in color work. This important department embraces a complete patent research division, technical library, research room, control room, optical rooms and dark rooms.

The actual handling of film has been streamlined to 100 per cent efficiency by progressive laying out modern quarters for camera unloading, negative polishing, printing, inspection, positive cutting, waxing, optical printing, and shipping—as well as a special effects camera department and private cutting rooms for the use of customers. A complete machine shop is also included.

14,000-Foot Room

A single gigantic room—14,000 square feet in size—is used for processing of all types of color prints. Here is contained vast machinery for the coloring and developing of positive films in 16

mm. and 35 mm. and in both two and three color. This is the department that will ultimately enable Cinecolor's output to be stepped up to between four and five million feet of film a week.

The basement has been scientifically designed to accommodate the mixing of all chemicals for developing and processing. It contains 50 vats, ranging in capacity from 1000 to 20,000 gallons. The circulation in each of these vats is controlled by its own individual motor.

All electrical wiring and pipes for water, gas and the fire sprinkler system have been installed in a specially ventilated tunnel, to prevent the possibility of their being affected by chemical fumes.

DC sets are also located in this tunnel. Release deadline dates don't usually take into consideration such hazards as the failure of electrical power, so Cinecolor has had constructed an auxiliary power plant, which is also installed in the basement for use in emergencies. In the event of power failure the auxiliary plant will pick up the job with a maximum current interruption of only ten seconds!

The huge new vaults for storing film have been patterned after modern bank vaults and are protected by an undrillable steel door. Fire sprinkling systems and additional novel safety features assure further protection of these vaults.

Air Conditioning Equipment

Since the printing and handling of Cinecolor film calls for exacting control of the heat and moisture in the air, special air-conditioning equipment has been designed for regulating humidity and temperature throughout the building with individual sectional control.

Airplanes flying in Burbank and vi-

The Kains automatic agitator. Tank not included with machine.

cinity will be made well aware of the location of the new Cinecolor plant. Across the entire length of the roof of the huge building the name "Cinecolor" is emblazoned in letters twenty feet high. The plant itself lies almost directly in important commercial air lanes. After dark the roof sign and the entire building will be illuminated by one of the powerful new mercury vapor lamps situated on top of a 30-foot pole.

A useful as well as decorative part of its facilities is Cinecolor's main theatre. Here rushes and test prints may be promptly viewed in attractive surroundings. A special study has been made of projection equipment to insure the picture being consistent with standard theatre projection.

The entire construction and installation of equipment has been carried out under the supervision of William Prynne, secretary of the company.

The business staff of Cinecolor, headed by A. L. McCormick, president and treasurer, has been comfortably and conveniently established in ten beautifully appointed executive offices. Among



the other officers are Alan Gundlefinger, vice president in charge of research;

W. T. Crespinel, vice president, and J. Henry Kruse, sales manager.

MAURICE KAINS, GADGETEER, BUILDS AUTOMATIC AGITATOR

EVERY photographer who develops his own film in a circular tank of the Watson or Leica type knows how seemingly interminable the developing time of 15 or 20 minutes becomes when every few seconds his attention is required to jiggle or twist the tank to assure proper agitation of the developer, nor is this method of agitation always reliable.

Maurice Kains, Local 659, IATSE, well known Hollywood inventor of gadgets for the photographic workroom, has solved this problem so successfully that he is placing on the market an electrically driven automatic agitator.

It consists essentially of a stainless steel turntable of just the correct diameter to hold a circular developing tank. This turntable is mounted at a slight angle upon a finely finished gumwood base. Within the base is the operating motor which uses either 50 or 60 cycle A. C. and turns the tank holding table at an approximate speed of 25 revolutions per minute.

Uniform Negative

The tank and film reel rotate together so that the film is "wound" through the developer. As the turntable is designed to operate counterclockwise, the revolving film picks up the developer at the outer edge of the reel and spirals it to-

ward the center. The fluid, because of the off-level angle of the turntable, gravitates toward the lower side, where it is immediately picked up for continued circulation.

The ribs and apertures of the film reel exert a mild churning action to the developer as it circulates through the tank, thus assuring the operator of a uniformly developed negative, free from air bell, directional or streaky markings.

Not only does the Kains agitator assure a clean negative but it allows the photographer to go about other duties in the workroom during the time of development.

Retail price of the agitator is \$7.50. It may be obtained through any of the Hollywood photo supply shops.

I. H.

Oklahoma City Movie Club

The February meeting of the Oklahoma City Movie Club was held in the rooms of the Oklahoma City Chamber of Commerce on February 17.

H. P. Douglas, a member, made an interesting and helpful talk on "Exposure." The talk was illustrated by a film showing the same shots exposed with and without the use of a photo-electric exposure meter.

Two films from the library of the Amateur Cinema League, "Art and Architecture" and "Peggy's Cove," were screened. These were the first outside pictures the club has shown and consequently were of great interest and help to those present.

The club films were followed by the showing of two reels, "Southern Wyoming" and "Jackson's Hole," from Charles Musson's 8mm. Kodachrome, "Summer Tour."

The next regular meeting will be March 17.

CHARLES MUSSON, Secretary.



Cinecolor plant photographed from air.

Fixing Up Family Films

(Continued from Page 112)

curved alphabets covering some 1600 type sizes, and all you do is trace out your words with a soft black pencil—inking later, if desired—and then shoot.

One titling firm** specializes in sponge rubber letters of different colors which may be affixed to various surfaces by means of an adhesive substance on the back.

Another*** sells a lettering guide which permits inked titles for use in



Leaves of a photo album flicked beneath this Family Album main title gives an interesting effect. (See 16mm. frame enlargement of actual scene photographed).

small cine titlers. In addition, there are metal letters, rubber-stamp letters, gummed letters, block letters, anagrams, alphabet soup letters—even type-set titles are possible with a font or two of modern legible faces.

Apparently, there is a definite trend away from the old-fashioned typewritten titles and toward more artistic forms of word expression.

Building Continuity

The wording of a title—the amount of horse sense it contains—probably plays a much bigger part when you shoot from the popular rather than the personal angle. Instead of cutting in straight candid scenes of all the family to succeed each subtitle, you juggle the stuff around, perhaps shooting more fill-in footage, until you have finally evolved a sort of continuity which tells a story.

In a personal handling of the aforementioned Christmas scenes, you would simply record the scenes like a first-rate newsreeler, but from the popular angle you would go even further, showing by means of close-ups the actual preparation of the meal, arrival of the guests, the passing out of food and gifts, departure of the guests, and finally the tired sprawl of host and hostess.

Or you can build up continuity by handling the whole thing as a dream, showing all the Christmas scenes up to the departure of the guests for the fadeout.

** Besbee Products Corp., Trenton, N. J. (Spell-O-Tex)

*** Wood-Regan Instrument Co., Nutley, N. J. (Wrico Lettering Guide)

Then fade in slowly on a dimly lighted bed scene with the husband's hand shaking the wife's shoulder, and as she wakes up, blinks, yawns and stretches, she discovers that the whole thing's been only a dream, and she's still got all the Yule preparations yet to be made for her guests.

For scenario purposes, you can shoot the bed scenes at almost any time before or after the guest scenes have been made. If your camera is not equipped for fadein or fadeout you can secure remarkably good results simply by dimming your artificial illumination until the blackout, or by slowly turning away the photoflood reflectors from your subject and finally cutting the light while you shoot.

Subjects Should Be Busy

By reversing this procedure a suitable fadein is obtained. This practice is well worth remembering for title effects, too. Similar fades may also be made by reducing the camera diaphragm to its lowest stop.

When photographing people, see that they are always doing something, not just gazing at the cameraman. Shoot the youngsters while they are absorbed in their games or the Sunday funnies. Film the relatives while another member of the family is showing them about your garden.

On family reunions a picnic idea provides good shooting, but don't line every one up for that traditional stiff shirt scenic. Instead, break the crowd up into groups of two or three and concentrate filming.

If they are camera conscious use a three or four inch telephoto lens and shoot from behind your well-trimmed hedge or through an unseen window. Unposed, candid closeups are always more interesting for the family album.

At the close of each year, re-edit all your family footage of preceding

duce a look-back scenario, showing the current members of the family at home, thumbing the pages of the snapshot album.

As the camera pauses for each over-the-shoulder shot, fadeout and fadein on the action scenes taken a year or more ago, returning occasionally to pick up a new close-up from the album of stills to carry on continuity.

In fact, there are so many possibilities for the distinctive handling of family footage that one wonders why more moviemakers, who often go to great length to produce striking travel scenarios, are hesitant to unleash their



This 16mm. frame enlargement shows actual view of Family Album title with album pages thumbed to provide movement over title face.

months into the "Family Album Parade of the Year." You might even introduce a bag of tricks on the simplest shooting of all:

Family albumming.

Chicago Cinema Club

New Flashes, official bulletin of the Chicago Cinema Club, with its February issue starts its fifth year. March 23 the club will celebrate its five hundredth meeting. The feature of the evening will be "See the West with the Nowells" (seventy minutes of scenic beauty on 8mm., scored with music.) Also there will be a club auction. Souvenirs will likewise be given to all members present. To top the evening the Second Salon of Prints made by Cinema Club members will be conducted.

March 9 and 10 will be Bell & Howell nights, while March 2 will be devoted to a business meeting.

"Sierra Nevada" Has World Premier in San Francisco

At the Gold Room of the Palace Hotel in San Francisco on the evening of Tuesday, February 28, Clifford Nelson presented the world premiere showing of "Sierra Nevada, Grand Crescendo of California." The subject is an unusual color and sound picture of a thrilling pack trip in the California High Sierras, featuring the John Muir trail, Yosemite to Mount Whitney. Admission was 55 cents.

Remerscheid Named B&H Vice President

THE Bell & Howell Company of Chicago announces the appointment of H. W. Remerscheid, western district manager, to the post of vice president, in charge of Western District.

Mr. Remerscheid became production manager of the manufacturing plant in Chicago in 1930 and was appointed assistant western district manager in 1932, which position he served until appointed western district manager in 1936.

J. H. McNabb, president of the Bell & Howell Company, arrived Saturday, February 18, to discuss future business activities in Southern California.



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• • •

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AGFA

16 MM. PLENACHROME FILM



FATHER MEEUS BATTLING FOR THE YOUTH OF CHINA

FATHER Charles Meeus, a missionary of the Catholic Church, has been in the United States since last summer lecturing and showing his color picture on "The Youth of China" and the large number of accompanying stills. It does not seem possible any one can listen to this young priest as he tells of the life of his charges, especially life as they find it during the past two years, without absorbing some of the enthusiasm he displays for Young China.

It is more than enthusiasm. It is a genuine affection for these youngsters, mingled with admiration and respect for the Chinese people and for their traditions. Nor does he for a moment lose sight of the suffering and death, the wounds and hunger, that have been a part of the life of this people.

In his film, the titles of which have been made by Francis Nelson of Hollywood, is portrayed the enchantment of the China Seas, flowers, rivers, skies; the Chinese theater, gymnastics (and much of this); architecture, fishermen, notably the boy who balances a cormorant on each end of a long pole, which afishing go when lowered to the water—and picked up again when they are filled.

We see Chiang Kai Shek and his equally famous wife; the bishop, sisters, schools and pilgrimages. Paul Cheng leads the Youth of China. The lads put on their exercises, their lion dances (synthetic lions, if you please), proving

they possess an abundance of humor; a China boy walks around a pond, his reflection appearing in the water; there are other reflections in the water; a stone falls in the pond and . . . WAR. There are views of bombing and of what war has meant to China: Children who have played their last game laid side by side.

As a finale we see monuments and the Flag. The Boy Scouts in China is a great organization. What greatly adds to its interest for Americans is the fact that entirely aside from the element of human sympathy that naturally flows to the young and for that matter to all the people of that stricken country the Boy Scouts there are sponsored by that body in the United States.

Father Meeus does not appeal to the American public for aid in feeding his Boy Scouts and rebuilding his mission by overstressing the fact that China is a suffering country. Rather he aims to tell Americans how much their help will do to restore those conquering smiles to the Face of China in peace time and war time.

In a note to the editor of this magazine Father Meeus concluded with these words:

"I hope the Japanese who will read this and see the picture will have a greater understanding and love for those courageous boys. The Chinese and Japanese are GREAT photographers. May be photography will bring closer understanding between both peoples, be-

cause I do believe that through a lens and a view finder we can really get to UNDERSTAND each other much better."

Who will deny that the work Father Meeus is doing for the Youth of China is not also in the interest of the United States—a country which always has been on the side of an even break for the land which contains in its borders a quarter of the children of the world.

"Photographic Counselor" Latest Thing in Filmworld

Frederick F. Watson, appointed last spring to the unique post of "photographic counselor" to Thomas Cook & Son, carries his advice on what to take and how to take it, free of charge to Cook's client's, to a new high, dating from the round-the-world departure of the Franconia January 7. Aboard the Franconia are two passengers with 16mm. cameras and 6000 feet of film who sought Mr. Watson's advice and at the same time made the following arrangement, before sailing:

That they would send him air mail, from Rio de Janeiro, two or three rolls of average exposed film which he would promptly have processed, and review—sending them a frank criticism, pro and con, air mail to Cape Town, to help secure the best possible results on the remainder of the world cruise.

A similar service is also being performed by Mr. Watson, a pioneer in the 16mm. field, for two travelers on independent itineraries.

One man now visiting South America has arranged to send back, by steamship steward, from various ports, all exposed film to date so that it may be processed and waiting, ready for him to see on his arrival from an eight-weeks trip. The other, bound via San Francisco, Hawaii, Japan, Singapore and the East Indies for the eastern coast of Africa, will visit Mombasa, Nairobi and the Belgian Congo and pick up a steamer for home on the west coast of the "winter sunshine" continent.

In his case he will have the processing done in Tokyo, then ship the film to New York—and as a result, will find his air mail letter of criticism when he arrives at Nairobi, before he starts his superbly pictorial trail across Africa.

The inauguration of the post of "photographic counselor"—unprecedented for any travel agency—was a result of Cook's conviction that the photographic record of a trip is a source of enjoyment second only to the trip itself. Mr. Watson's advisory service to clients covers every phase of photographic technique and equipment, still or movie, and is entirely complimentary, either by letter or by personal interview.



Father Meeus shooting planes in battle.

FATHER MEEUS WITH CAMERA DESCRIBES YOUTH OF CHINA

By FATHER CHARLES MEEUS



THE very first time I ever used a motion picture camera I blurred the picture by too fast panning. As a matter of fact, the panning was so fast that it ended with myself in the waters of the Yangtse-Kiang River, or Blue One, near Shanghai, China.

I had gone to China in 1935 hoping to be able to synchronize my life with that of the Chinese people; hoping that through the use of a fast lens, and a wide angle one, too, and many filters, exposure meters, etc. (meaning by that the factors of adaptation that any missionary requires), I would be able to understand and get understanding from that wonderful people.

That all meant I would have to study the numerous "sound effects" of the Chinese language, the control of the exposure I would have to give of that which I wanted to teach, such as modern sports, games and science and also I would have to learn about the interchangeability of my lenses, meaning the different ways in which I would tackle those from whom I wanted to learn about modern China.

The Buddhist Monk naturally would need many filters; my talk would have to be "color"; the Mandarin would hear of the message after I had adjusted to my poor knowledge of Chinese the needed equipment to avoid "parallax" in my utterings of the noble Chinese language.

Drops Camera in River

This introduction to the background of my little picture, "Youth of China," may seem a bit too prejudiced in favor of both the Chinese and the motion picture ideals, and I am afraid it is, but how could it be otherwise when, since four years now, I am doing nothing less

than either taking pictures of Chinese people in China or projecting them here in America!

And this brings us back to the point when I was telling you that I had panned so fast that there I was with my camera (still working) under the yellowish waters of the Blue River after my very first attempt in the big art of photography.

Well, that swift dive in China's element brought me in close contact with those dear people and allows me today to produce a picture that speaks for China.

Belgian Born

As you may know, I was born, raised and studied in Belgium. There I had determined so to plan my life as to aid me in converting or at least in influencing the conversion of as many persons as possible. In the pursuit of that aim I found myself back in 1933 on board a train in Belgium.

I fell into conversation with as fine an example of the Chinese race as you would meet in a long journey. He was an elderly man, benevolent of countenance and gentle in manner, and yet with the bearing of one who spoke as with authority.

I could not forego the exercise of the desire to convert—and with most unexpected results. Gradually it was borne in on me that my companion was none other than the famous Bishop Tsu, the head of the mission I was two years later to join.

I who had thought to be the converter became the converted—converted to China.

The location of this mission is Adam's Apple Island, it being situated in the mouth of the Blue River, and

Father Meeus being awarded the Scout Service Badge by Paul Cheng, Boy Scout leader, for using his camera during bombardment. It is true some of the time the camera was without film, an expedient successfully employed by the priest in order to sustain morale under desperate circumstances.

that is where MY PEOPLE live: I mean it when I say "MY PEOPLE": having become a Chinese Citizen. (That was NOT changing my camera . . . but using "China-Chrome," as I call my adaptation to the Chinese.)

Sailing on the Blue River: Gorgeous composition . . . color . . . angles of big sails that look like batwings . . . everything in China has an unusual angle: The shape of the roofs, the shape of the wheelbarrow on which people actually sit to travel for long distances . . . and even the unusual shape of the model T Ford cars . . . and what about the COLOR of the Buildings of China? . . . It's blue, yellow, green . . . gold all over: the tiles themselves are green or yellow and green; skies are so blue, too.

MODERN CHINA is something that is "fotogenic" as they say in Europe: rich lines providing marvelous angles in photography.

How did I come to take my NEXT picture after my camera fell in the waters of the Yangtse-Kiang? First of all, I had it cleaned by a Chinese silversmith in the country: I'll always remember his face:

Wrinkles all over . . . spectacles (Chinese ones) . . . and his thin, delicate hands . . . but ALSO will I always remember what I found on his table: about 100 odd little bits of steel and glass . . . My Bell and Howell Camera, 16 mm.,



1



4



2



5



3

1—Temple of Heaven in Peiping. Taken 4 p.m. August; Rolleiflex, which was camera employed unless otherwise stated. Exposure, $f/16$, time, $1/100$.

2—Adam's Apple Island. Taken 2 p.m. July. Same factors.

3—Temple of Heaven in Peiping. 11 a.m. 3.5, $1/100$. (Note: This building has been overphotographed from every angle, so I decided to keep it blurred as background and shoot a sharp image of the foreground. A pillar showing very dis-

tinctly the five claws of the dragon, the symbol of emperor who built this temple. This is done to try and follow the Chinese tradition of foregrounds in art; classical to their art.)

4—Amateur cinematographer. January, 12:15 p.m., $f/11$, $1/25$. The lad's exposure meter (!) Too expensive, but he likes to try anyhow with his fingers.

5—Symphony under the clouds: July, 2 p.m., $f/16$, $1/50$. (The boy of the country who one day will

Selections from the Scra



know about the New Life Movement . . . through the light of the screen.)

6—Father Meeus, using his Bell & Howell camera with lens polished by silversmith using teakwood.

7—Chinese boys acting for a 400-foot comedy, aiming to outdo Hollywood.

8—Sedan passing a bridge. 2 p.m. September, f/16, 1/50. (Note: Picture was taken from my own sedan. Note that being carried by

four men caused it to shake badly, yet I wanted speed to get some good color. F/1/50. It worked.)

9—Children of the China Seas. January, 2 p.m., f/8, 1/50.

10—Slingshots. December, 3 p.m., f/8, 1/25. Shows myself "China-chromed," and was taken by one of my boys.

11—The Sage of the River. September, 4 p.m., f/4.5, 1/25.

12—The Glamour of my boys. December, 2 p.m., f/3.5, 1/50.





*Little Miss China; September, 3 p.m.,
f/8, 1/50.*

model Filmo 70 A! He had actually taken everything to pieces . . . and was . . . considering the next step to take!

Polished Lens with Teakwood

The next steps were very slow and delicate and steady, because he wanted to know the "Wei-she-ma"; the reason why of everything that Chicago artisans had planned.

I did not see all this, for the simple reason that I had fled praying that no flood, no famine, no locust nor even a mosquito (common plagues in my adopted country) nor even WAR would come and detract his attention or his memory from the worthy task that he had taken on his thin old shoulders and . . . brains . . . of "splicing" this thing together.

The next morning there he was with a good looking camera . . . that worked, thanks be to Tien-Chu . . . Thanks be to God . . . and . . . is still working today . . . IMPROVED.

Improved? Yes, and how: He had passed the whole night actually POLISHING the lens of my Filmo 70A, between two pieces of teakwood, having discovered that HE could make it better.

And then my first pictures . . . at last: A group of children . . . their sweet and laughing faces? NO, their swiftly running away slippers and their little Chinese robes whisking behind a wall . . . frightened little beggars they had become . . . what? This machine was going to steal their personality . . . their very soul . . . no, no, never!

And that night they didn't sleep . . . and neither did I: I was making a fake basket filled with candy: A very intricate business: through a gap in the side of the candy basket the lens was peering in space . . . peering upon the

eager faces of the boys who, as boys are all over the world, LOVE candy: those pictures were even better than the terrified-little-ropes-that-whisked-behind-a-wall. I still have those smiles and keep them precious in my library, because they mean so much to me.

Educated by Boys

You heard how I was EDUCATED by my boys (12 of them) appointed as my preceptors by Bishop Tsu; how they taught me to speak Chinese . . . and English, too . . . eat with the chopsticks, how to avoid "parallax" in my adopted language, etc.

Well, those boys are now what I consider GREAT ACTORS, yes, I mean great actors because for the space of three years I have followed them in their games, their studies, their Boy Scout life and in every one of their reactions in front of the life they are facing with courage and determination.

And that is where I want to tell you of all the GLAMOUR of my Chinese people. They have seen many a "Yin-Chi" (electric-shadow or motion picture show!) in the big modern and packed theaters of Shanghai, Canton, Hankow, Nanking and Peiping.

I have seen the old "Ta-Ta" (or woman who lives in the big city) telling her cousin from the country who Loretta Young was, the girl who is as much emancipated as a gentleman (a rare thing in China of olden days) . . . of Tyrone Power and Spencer Tracy, of Allan Mowbray who is "so funny" because he always "behaves" in front of his masters (the Chinese servant is very informal, being one of the family); of all those whom they look upon as heroes today.

Waiting for Chinese Western

I have seen them (those of the country, the interior,) GRABBING in the air for the "substance" as they will call it ("Yeng-Ti") of the dollar bills that the silly lady of the comedies, such as college pictures, throws around with an Oxford accent to the jolly-good crowd.

I have seen my people scandalized at seeing people not afraid to "kiss" each other on the screen . . . I have also seen them REALLY very thrilled at the only thought that one day in China a picture will be made of the "Chinese-Wells Fargo" because China also has its great West and unknown distances.

I have seen them laughing themselves out of their wits as they watched American mice and cows and cats and geese and grasshoppers that were actually trained by those amazing people of "A-Mei-Li-Ka" to TALK and SING and even to . . . wear CLOTHES: Disney's cartoons.

BUT, and never will I let anybody believe that the majority of my Chinese people are so simple; the student of China, the merchant, the business man, the educator, will look upon the moving pictures as a great factor of progress and propaganda of sane ideals, of methods for getting the people United in

China . . . twenty-five moving picture companies (Chinese) were started . . . and are still going . . . one of them went "broke" because it tried to bring OLD China back to the people . . . China loves her traditions and sticks to them . . . but wants to be a NEW CHINA.

Screen in School's Place

General and Madame Chiang Kai Shek want their people to be educated to know about the New Life of China and are very willing to start pictures (16 mm. and 35 mm.) that will take the place of destroyed schools for mass education, for teaching of objects ranging from how to cook your meals to the obedience of the principles of Confucius and the spreading of a sane Christianity.

I left China in July 1938: I had taken many pictures, yes, but very many of them with an EMPTY camera . . . was there a better way of getting my boys to do things when in the midst of a bombing they would have worked 10 hours to clean up a pile of debris attending the people pinned under it and find it redestroyed by another bomb . . . they were desperate, my Boy Scouts, when they saw that.

They would cry and sit down . . . desperate . . . but there was Father "Plumblossom" (That's ME in China) taking pictures . . . that meant that people all over the world would see those pictures . . . and Bell and Howell went to work (with the "polished lens".) to take pictures of how they were going to act in front of those great odds.

EMPTY was the camera . . . full of hopes was I . . . that they would not discover the trick too soon . . . but anyhow I managed to get more than 800 feet of Kodachrome in full bombardment in Canton of their WONDERFUL WORK.

I have to admit that a Cine-Kodak Magazine came very much to the rescue . . . it is totally impossible to load a camera in a bombardment with a spool . . . whilst a magazine is as handy as a machine-gun-belt and shoot, shoot, shoot, goes the little camera.

Scenes of War . . . and Peace

I shot—and shot pictures of mostly everything a bombing means: death, wounds, planes roaring down . . . and . . . also I shot some marvelous scenes of BEAUTIFUL, PEACEFUL CHINA.

That is the background of that suffering country: Nature in its most wonderful moods lavishes every tint of its palette on the China seas . . . you have seen those great big white clouds that look like "dragons" ("Long-Young") against the horizon . . . the peaceful fishermen . . . etc.

And one day, KNOWING THAT MY BOY SCOUTS, FOR EVERY GOOD DEED THEY DO: NEED A GOOD FEED, I left them, and came to this country to show their work and get support for them.

I came to Hollywood to edit and cut and splice and get ideas . . . I don't know HOW it worked out, but (I suppose

America is REALLY a wonderful country) after having showed the picture a thousand and one times to all kinds of groups that reacted differently I spliced and spliced till I came to a result that really is something.

It is rather interesting to note that when I arrived in America, due to the fact that the Chinese dollar had fallen to a rather low exchange, I was practically reduced to nothing on my bank account and the first thing I did was . . . to pawn my camera (the one that had been taken to pieces by the old Chinese silversmith . . . that had taken all these shots) and with that money to start building up WITH MY OWN UNAIDED WORK the picture that I am presenting to the public today.

Meets Dr. Freebairn

My first contact with Hollywood was through a . . . dentist, Dr. Freebairn, of the Los Angeles Cinema Club, whom I had not known before . . . When I told him in the chair of his office that I had seen his name in Canton in a magazine

he was really very thrilled about it. I then went from one place to another until I finally decided to make sound on my picture and then I sought Francis Nelson, who provided me with a marvelous instrument.

From the Women's Club on to the school there is a vast field of audiences: homes, auditoriums, open-air backyards . . . even "down-town" cement rooms . . . tiny little parlors and strange angles in homes.

I faced people of all creeds, of all languages, and so I had to be able to give my message through the projection of the film.

A sound track would have been too expensive, so a couple of records played on this instrument accompanied by my own voice made it all very clear.

I have given the picture to many persons in different audiences ranging from 2 to 200 and even 900 and every time it came out fine. One reason why people perhaps like my picture is because it is an amateur picture, but it has super-news shots in color.



100 years old. She has seen two emperors live and die; saw the revolution in 1911; now has three sons in the war, while twenty-four descendants are boy and girl scouts.

BUREAU OF MINES GOES STRONG ON FILM MAKING

THE United States Government is not in the motion picture business, but it is not overlooking any bets. A number of the departments are aware of the value of motion pictures and use them to good advantage.

The main object for government films is that of education and information. A number of the bureaus within the departments have their own motion picture units, where they take care of the production and distribution, and one of these is the motion picture unit in the Bureau of Mines, in the Department of the Interior.

This particular unit has been functioning for over twenty years making pictures of various products being manufactured, mined or refined. The subject matter of its films covers a lot of subjects and there are specialists in each field who approve the details to be put into the films.

The specialists are all personnel from the Bureau of Mines. They see that the films conform to the standards as set down in regulations drawn up by the bureau. This assures authenticity and correctness. The motion picture unit has its headquarters in Washington and all distribution is from Pittsburgh, Penn., where there are at present about 3399 reels of film that is constantly being shipped to points all over the world.

The amount is not sufficient to fill all requests on appointed dates, therefore some films are booked as far as six months in advance. A person making a request for a certain film may

be informed that his request may be filled sometime six months hence.

Although the actual amount of reels is small in comparison to the amount of requests there were 9,500,000 persons attended 94,369 showings during 1938. There were 1260 reels of film added to the stock during the same year and approximately \$110,000 appropriated by business and industry to

enable the Bureau of Mines to carry on the production of new pictures and the revision of old ones that might have become obsolete.

Business or industry that makes great strides in technicalities must have pictures that are up to date. Therefore the Bureau of Mines is kept busy revising old pictures on certain subjects such as oil, potash, sulphur and many other such commodities and minerals.

New theories and practices, new methods and machinery, new uses and procedures must all be brought up to date in the motion pictures of the Bureau of Mines.

It seems reasonable to believe that here is a potential market that could be utilized by many who wish to tell a story to a picked clientele.

The majority of the pictures are produced in silent form and are all supervised by the Bureau in order to have a uniform quality and standard.

Advertising is not permitted, and any names of organizations are deleted or kept out of the pictures. The pictures must be strictly educational or informative. In most cases even credit titles are left off, and only in very rare cases do the director, cinematographer and other technicians receive recognition.

A saving in the cost of reproducing copies of records and of storage space will be effected by new microphotographic recording equipment just installed by the Commonwealth Statistician at Canberra, Australia, according to a report to the Department of Commerce from the office of the American Commercial Attache at Sydney.

Photo Finish

When W. C. Fields walked on the set of Universal's "You Can't Cheat an Honest Man" the other morning Charlie McCarthy, as has become his habit, was laying for him.

"Mr. Fields, I heard you rode one of the horses at Santa Anita yesterday," was Charlie's greeting.

"As a matter of fact I did, Charles, my diminutive little chum," Fields replied.

"What a jockey! What a jockey!" McCarthy exclaimed. "I suppose, to hear you tell it, you won by a mile."

"No, Charles, I am not given to tarradiddle, my little chum, I won by a nose."

"Oh, just a length and a half," Charlie laughed.

"Very funny, very funny," Fields retorted. "Go'way or I'll carve my initials in your spine."

THREE NEW STARS

EASTMAN'S new motion picture negative films . . . general-purpose *Plus-X*, high-speed *Super-XX*, ultra-fine-grain *Background-X* . . . add highly dependable performance to extraordinary special abilities. Their instant acceptance and constantly wider use by the industry mark them as today's outstanding raw-film stars. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

**EASTMAN *Plus-X* . . .
Super-XX . . . *Background-X***

CUTTING PARALLAX WORRIES IN HAND CAMERAS

AMONG the fundamental problems of the use of telephoto lenses, especially under field conditions, are those of focus and parallax. When Cinematographer Joseph Yolo, of Yakima, Wash., was commissioned official cinematographer for the Alaska Fish and Game Commission and the Alaskan Forest Service he knew that he would encounter these problems under particularly trying conditions, for he was to make a motion picture record of Alaskan wild life.

This, of course, pre-supposed a hand-camera rather than a studio camera, for at times all equipment would have to be packed for days into the wilderness, and at all times he must be ready to bring his camera speedily into action. Extreme telephoto lenses were naturally necessary.

So Yolo built himself an automatic range finding, parallax correcting finder for his Eyemo.

The commercially available foundation materials for this finder consisted of an ordinary Leitz range finder and one of the extension finder tubes made for use with the Eyemo. The rest of the device was assembled out of sheet brass, in one week's time, before sailing for the Northland.

Removes Rear Eyepiece

Removing the rear eyepiece from the finder, Yolo fitted in its place the ocular end of the Leica range finder. Around this assembly he built a roughly oval housing of soldered brass, from which the other end of the range finder projects upward periscopewise.

A brass plate was soldered to the calibrated operating disk of the range finder and cut away so that the calibrations

were still visible. From this a wire rod extended downward to a lever which in turn was fixed to the rear end of a shaft which extended horizontally forward. All of the connections involved were kept under tension by small bits of coil spring, which automatically took up any play.

The horizontal rod was carried forward beyond the front of the camera and terminated in a vertical lever. Horizontal pressure on this lever would therefore turn the disk of the range finder, actuating its mechanism.

Yolo's greatest problem would naturally be with his twelve-inch telephoto lens. It was this lens he decided to coordinate with his range finder. The lens is mounted with a slipjoint focusing

mount, in which focusing is done by moving the lens straight in and out rather than turning it, as is common with lenses of shorter focus.

To operate this Yolo added a simple rack-and-pinion mechanism, so that by turning a knob the lens moved in and out. At the rear end of the rack he fixed a triangular shaped cam. This, as the lens moved in and out in focusing, bore against the lever connected to the range-finder, operating it.

Repeated trials determined the curvature of the cam. When this curvature was finally reached the focusing of the lens and the action of the range finder coordinated for all focal settings. It was therefore possible to rack the lens in and out until the double images in the range finder came together. Then, as in a miniature camera, the lens was correctly focused.

Still Parallax Problem

This, however, still left the problem of parallax. In studio cameras this is met by pivoting the finder; but the construction of the Eyemo made this method impractical.

Therefore Yolo carried the extended finder's tube as far forward of the camera itself as was possible. At the far end of the tube he fitted a metal matte matched to the field of the lens. This matte is free to move from side to side.

He then extended a second shaft forward to the front of the finder from the range finder mechanism in the rear. A small lever at the end of this shaft moved the finder matte from side to side as the focus was changed. This action was coordinated to give a finder image matched to the lens field at each distance.

The device thus serves a triple purpose. Through a single eyepiece Yolo can focus his lens with the range finder, and



Joseph Yolo and the Eyemo Camera he has equipped with interlocked range finder.



at the same time view the exact field covered by his lens, corrected to compensate for finder parallax.

With the exception of the range finder and the rear eyepiece the finder is a simple tubular finder, no lenses being employed. It gives a brilliant image, and of a size sufficient for accurate, quick action under field conditions.

When the Caribou and Kodiak bears give Yolo time to finish the job, he plans to coordinate this finder with all of his other lenses. At present, however, he uses simpler, but equally ingenious finder arrangements for these objectives.

Uses Special Mattes

In field work the customary rotating, multiple finder mattes of the camera are inconvenient. They give a rather small image when long focus lenses are used, and when working fast one is likely to swing a different lens into place with the turret—but forget to change the finder matte.

Therefore Yolo incorporated special finder mattes with the filter holders he has mounted on his lenses. These holders are of simple brass construction, and designed for two-inch-square glass filters.

Projecting from the appropriate side of the filter holder is a metal matte, accurately cut to match the angle of the lens. Thus when any lens is swung into shooting position its matched finder matte is automatically brought into place before the finder at the same time.

Carrying professional cinematographic equipment—even an outfit as portable as an Eyemo on long packtrips is a considerable problem. Conventional carrying cases are not adequate.

Where one must be prepared at any minute to get into action in a matter of seconds, to bag a bear or a wary mountain ram, there is little time to fish a camera from a civilized carrying case and assemble it. In addition, on the trail a man can make little progress if his hands are filled with camera cases.

To solve this difficulty, Yolo had a special backpack camera pack made. A padded wooden frame forms the foundation, as it would in any backpack. The camera, carried always on its Bell & Howell sliding base or alignment gauge, fits neatly into a supporting cradle in the center of the pack. It is held firmly

Left, Yolo's interlocked range-finder in use on his Eyemo. Note cam on lens-mount and operating lever bearing against it, also sliding matte in finder tube. Center, the finder-housing opened to show how standard Leica range-finder is fitted. Right, Cooke 12 1/2-inch lens, showing how Yolo fitted rack and pinion for focusing, and cam to synchronize range-finder.

in place, but may be lifted out by a single motion, without any need for releasing straps or catches.

Around the camera are zipper equipped pockets, fashioned to hold the lenses and other accessories. Beneath is a sacklike space large enough to hold a supply of spare film and the equally necessary spare clothing and toilet articles. The

A 35mm. frame enlargement from a hair-trigger action scene made by Yolo with the twelve-inch telephoto lens and finder set-up. When he sent us this shot, Yolo laconically described the filming of this entirely wild Alaskan Grizzly by remarking: "The old fellow thought he heard or saw something; but soon was back on the job fishing." Much virtue and incidentally and most importantly the guarantee of personal security in a tele-lens!



waterproof canvas sides of the pack close over this with a zipper and a waterproof top folds over from the top, being fastened with ordinary spring fasteners.

Webbed canvas straps slip over the wearer's shoulders to hold the pack firmly in place on the back. Even fully loaded, the pack is surprisingly comfortable and well balanced. While it probably weighs rather more than the camera outfit would in ordinary cases, it feels much lighter than the loaded cases would if carried for any distance in the hands.

Further, Yolo reports, the camera can be brought into action much more rapidly; he has at times had his camera set up and operating within 20 seconds from the time he saw the distant animal he wished to photograph.

In this connection, it may be mentioned Yolo states while most of the Alaskan animals do not appear to notice the noise made by the camera while it is running, they most emphatically do notice the click it makes in starting and stopping, even when they are thirty or forty yards distant from the camera.

To overcome this difficulty he had a special knob made, fitted to a shaft which fits on to the hand crank shaft of the camera. Using this knob as a brake, he can start and stop the camera noiselessly. This, he points out, often means the difference between missing and getting an important picture.

La Casa Moviemakers of Alhambra

A large group attended the January meeting of La Casa Moviemakers of Alhambra. The evening was devoted to the showing of films made by the members. The following presented films:

Mr. Phillips, the Pomona Fair.

Mr. Powell, Death Valley.

Mr. Korns, Oakland and San Francisco Bay Bridges.

Miss Turnbull, Norway and Sweden.

Mr. Stiveson, Marching Girl Teams of the American Legion.

Many of these were in color and showed real talent.

An uncut film contest was announced for April, when several fine prizes are to be given to the winners. Present were seventy-six members and guests. R. A. BATTLES, Publicity Chairman.

WALKER BUILDS 16mm. ZOOM LENS

By WILLIAM STULL, A.S.C.

EVERY serious amateur or semi-professional user of 16mm. or 8mm. cameras has at one time or another wished he had some means of either moving his camera swiftly forward or narrowing his lens-angle to get a quick transition from longshot to closeup, yet avoiding the abruptness of a direct cut.

The studio professional has a wide variety of specially built "dollies" and booms at his disposal for such shots. In addition, he can if necessary employ any one of several types of "zoom" lenses, which accomplish the desired result by narrowing the lens-angle.

But these are as a rule completely out of the question for the substandard filmer. Only a rare few satisfactory "dollies" for 16mm. use exist—none of them commercially available. And while one European firm has made a miniature "zoom" lens for 16mm. cameras, none of them, so far as is known, has yet appeared in this country. Even if it did, the twin disadvantages of price and

No. 1, Left side, long shot (wide angle, short focus) position. No. 2, Left side, closeup (narrow angle, long focus) position. No. 3, Right side, closeup position.

bulk would in all probability bar it from general use. To be satisfactory, such a lens must be small, simple and inexpensive.

During the past year Joseph Walker, A.S.C., whose hobby is collecting, building and rebuilding lenses, has developed a zoom lens for 16mm. use which meets all of these requirements. It is small—the one tested by the writer fitted conveniently on the small Model 75 Filmo camera, and could conveniently be carried in a coat pocket.

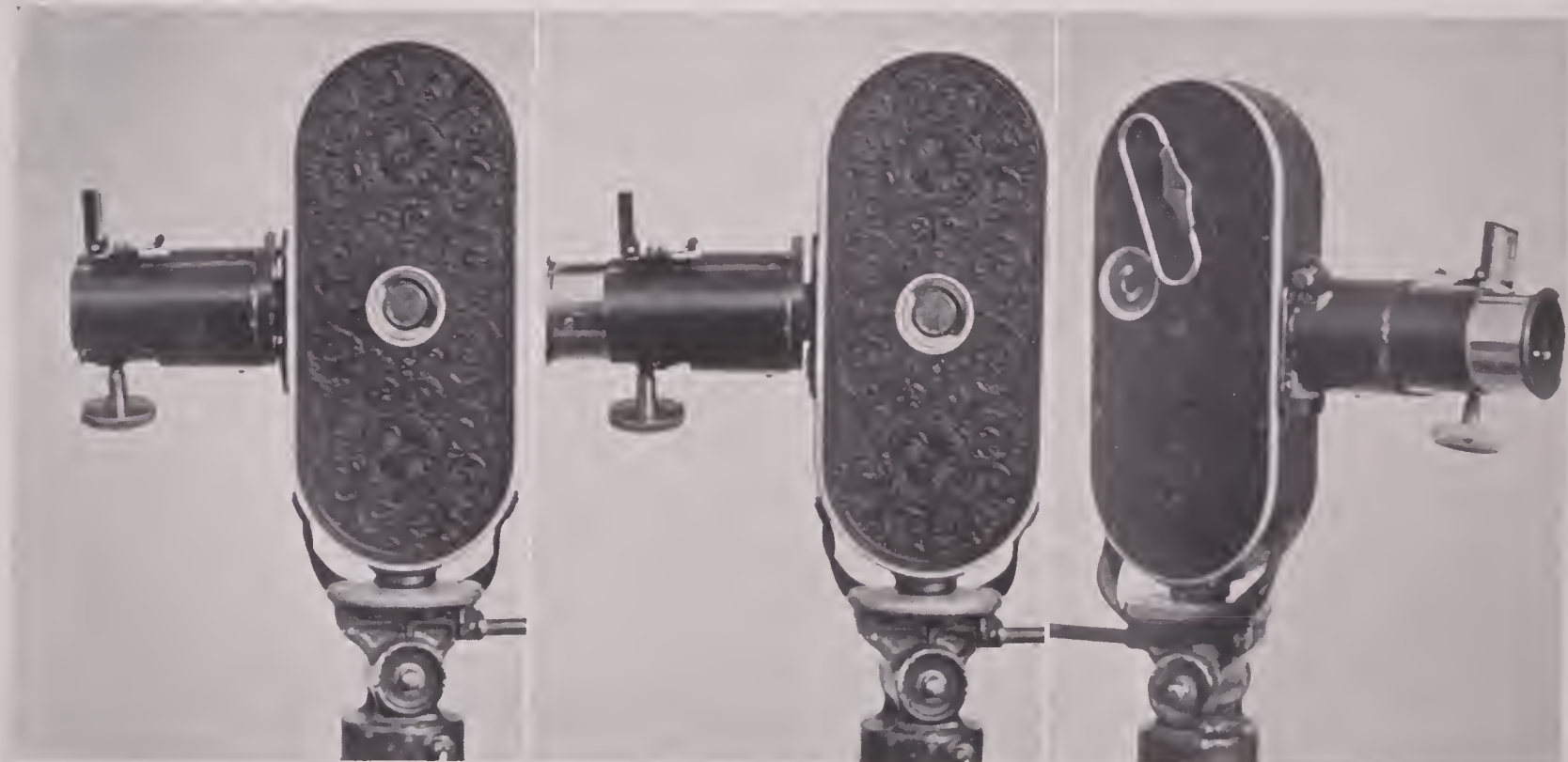
It is, even in its rather crude experimental state, quite satisfactorily simple. It should be inexpensive enough, since its optical construction is based on standard units, and its mechanical construction utilizes no special parts.

Its efficiency is best attested by the fact that Walker has used the same design (which, by the way, is patented) in making a similar lens for 35mm. use, and has employed this objective where necessary in several productions he has photographed at the Columbia Studio.

To be strictly accurate, the device should perhaps be called a semi-zoom lens, for, instead of making a continuous zoom from longshot to closeup angle, there is a fairly quick transition. On the screen the effect is that the former shot suddenly goes out of focus, and immediately the picture refocuses on the closer angle.

This is accomplished very simply. The longshot angle is provided by a standard lens, of relatively great focal length, behind which is a supplementary lens which serves to shorten the effective focus of the combination.

When the zoom is made the supplementary lens is simply pivoted out of the way, while the main lens is at the same time quickly racked forward to its correct normal focal setting. These apparently complicated motions are



"TOY" STAGE HAS PASSED

THE HUON
BRANKSOME HILL ROAD
BOURNEMOUTH

30th January, 1936.

The American Cinematographer,
Hollywood, Calif., U.S.A.

Dear Sirs:

In forwarding you my subscription, I am tempted to make a retrospect of the past year.

Despite the troubles that have beset the world, the 16mm. side of Kine-matography has progressed. This may be attributed to two definite causes:

First—The manufacturers have realized that the stage of "toy" has passed and that it is necessary to place on the market a prototype of the larger edition, equal in quality, performance, and lasting powers.

Second—The user who is chiefly the Amateur (and this may be equally divided among the professional requirements of sub-standard) has created this demand, by insisting on an article that despite certain limitations, shall at least put up a good performance.

Film societies in this country have made great progress and are turning out some more than creditable results, even though they are restricted by finance and equipment.

Finally we thank our American cousins for a considerable amount of initiative, as expressed in your valuable organ.

Yours faithfully.

J. P. J. CHAPMAN,
A.R.P.S., F.R.S.A.

fin, chairman; banquet and dance, Nathan Levinson, chairman; Ladies' reception committee, Mrs. Nathan Levinson, hostess; publicity, Julius Haber, chairman; new equipment exhibit, J. G. Frayne, chairman. The semi-annual banquet of the SMPE will be held at the Hollywood Roosevelt the evening of April 20, with many studio executives and film personalities invited to attend.

Universal Cameramen Find New Film Values in Blue

Hollywood has the blues these days.

Not that the film colony is despondent. It's merely that for purposes of a newer and faster film, blue photographs better than white.

Visitors on the set of Universal's new Crime Club production, tentatively titled "Murder in the Surgery," are finding a complete hospital staff outfitted in blue instead of the traditional white.

Over on the "Three Smart Girls Grow Up" set, Robert Cummings, William Lundigan and other male members of Deanna Durbin's supporting cast are wearing blue dress shirts, ties and collars.

Blue photographs white, and under the low-key lighting employed on the fast film, superior results are obtained if an aquamarine color is substituted for garments that formerly were white.

Two leaders in experiments with the new film are Joe Valentine, A.S.C., photographer of the Deanna Durbin picture, and John W. Boyle, A.S.C., who is shooting the Crime Club film.

New Uni-Directional Mike

A uni-directional microphone achieving new sensitiveness on its "live" side by the use of newly developed and more powerful steel magnets, yet capable of turning a completely deaf ear to unwanted sounds coming from any other quarter, has been developed by RCA engineers.

Only about half the size of the uni-directional microphone which it super-sedes the new instrument is ideally suited for use in auditoriums with broadcast or public address systems to eliminate pickup of audience noises or echo. It is also perfectly adapted for use in small radio studios where space is at a premium, for it will function normally in a corner or against a wall.

Morgan & Lester, publishers, with headquarters in New York, completed an unusually successful book year. Two books were issued—"Leica Manual" and "Miniature Camera Work." Each of these sold at \$4. In the year 1938 12,500 copies of the first named were sold. In the final six months of the year 10,000 copies were sold of the last named.

The publishers state that inasmuch as the Leica Manual is up to date there will be no revised edition until some time during 1940. That issue, by the way, will be the Fourth Edition.

effected very simply by a standard rack-and-pinion movement, such as is common in projection lenses, coupled to a simple assembly of two stock gears!

In the tests made by the writer the lens, in both long and short focus positions, gave critically sharp results. The speed of the present experimental model is f:3.5.

There is actually a very slight difference in the speed of the combination with and without the supplementary lens in place; in practice, however, this is so small as to be negligible, especially if one is using reversal type film processed with automatic photoelectric balancing control.

Focusing is essentially simple, though on the lens tested, which as has been mentioned was simply a crude working model which Walker used mainly for experimenting with his idea, focusing was done visually.

Even with this experimental lens focusing was not difficult. The longshot setting was first determined. Then the lens was shifted to the closeup angle and the focus corrected for this point by an adjustment governing the forward movement of the lens.

Thereafter all that was necessary was to start the camera: when you wanted to zoom you simply turned a knob—and the zoom was made. Turning the knob the other way reversed the effect.

It is entirely feasible, according to Walker, to provide focus calibrations comparable to those on ordinary lenses, though it is probable that separate settings would probably have to be made for the two extreme positions or angles (i. e., longshot and closeup).

The zoom operating knob could with equal facility be replaced or supplemented with a lever, which would make the operation more speedy. Even with the present somewhat crude model, however, I have zoomed in from three to six inches of 16mm. film.

Whether or not this lens will be manufactured commercially has not as yet been determined. From this writer's own experience with the device, it should be, for it can fill a long-felt want in substandard cinematography.

TASKER APPOINTS SMPE COMMITTEES

FURTHERING plans for annual spring convention of the Society of Motion Picture Engineers, to be held at Hollywood Roosevelt Hotel, April 17 to 21, Homer Tasker, chairman of local arrangements, announces appointments to committees which will function for the event.

Officers and committees, composed mainly of members of the Pacific Coast Section of the SMPE, include E. A. Williford, president; Nathan Levinson, executive vice president; W. C. Kunzmann, convention vice president; Loren Ryder, chairman Pacific Coast Section; Homer Tasker, local chairman of arrangements.

Papers committee, L. A. Aicholtz, chairman West Coast; reception and local arrangements, H. G. Tasker, chairman; registration and information, W. C. Kunzmann, chairman; hotel and transportation, G. A. Chambers, chairman; convention projection, H. Grif-



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Because the Kodachrome process practically eliminates film grain, the projected movies are exceptionally clear. Add its technical excellence to its ease of use and capacity for great beauty—and it is easy to understand why Kodachrome has put new zest into movie making.

Both types of Kodachrome are the same price. Available for 8 mm. and 16 mm. cameras in all standard rolls and magazines. Processing and return of the film, within the same country, at no extra charge.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Documentary Filming in America

By EDWARD H. SCHUSTACK

THE overwhelming success of the government produced "The River" helped introduce a new word into American national life—"documentary." With the government already committed to a policy of documentary film production and with several independent groups at work preparing 1939 releases, the film industry needs a frank and critical evaluation of the documentary film from the standpoint of both objectives and accomplishments.

Basically, documentary deals with the expression of an *idea*, rather than a fictionalized story form. In the so-called "theatrical" film the attention of the

audience is devoted to the interplay of human acts and emotions, while in documentary the concept itself, be it the effect of dust storms on agriculture or even soil erosion on food prices, is of prime importance.

And throughout the whole of its activity, documentary attempts to relate natural phenomena to the people affected: dust storms to higher prices for clothing, erosion to lessening of the lumber supply and fewer new homes for the people.

In attempting to cinematize present day society the good documentalist makes use of *sociology*, the science of

human life and relationships; *history*, the systematic recording of past happenings; and lastly of *economics*, in which the production and distribution of human needs and necessities is treated as a vital and living social force.

The documentary film is a most potent means with which to express all the complex social relationships that together make up a modern society. But more than mere expression, it dramatizes these relationships as only the motion picture can, and at the same time introduces a note of propaganda, more properly termed social persuasion.

Most people conceive of propaganda in the narrow political sense, neglecting the wider social propaganda of which documentary makes use. The need for soil control, for planned civil communities, for farm and farmer rehabilitation and the problem of unemployment are all the concern of the documentalist.

It is in only a single sense that documentary films are propagandistic: Documentary attempts to rouse the conscience of the nation to the need for social and economic reform, often indicating a solution to the problem at hand.

The propaganda content of modern documentary gives to it the vitality and social realism that, as it prevents its lapse into innuendo, will help to make it a national force in America.

It was the United States Government that first gave documentary a national voice in America. The creation of the Documentary Films Section of the Resettlement Administration was decidedly a novel experiment. It was at the time that the Midwest dust storms were wreaking such havoc on our fertile wheat areas.

Pare Lorentz, prominent critic and chief of the section, settled upon a history of American agriculture leading up to the dust storms as the means with which to express the plight of those made helpless by the new and dust-created American desert.

Traces History

Such outstanding cameramen as Paul Strand ("The Wave," etc.), Ralph Steiner, Leo Hurwitz and Paul Ivano, A.S.C., were selected by Lorentz to film his script.

"The Plow That Broke the Plains" traced the history of the transformation of the dust bowl from its first days as a cattle grazing plain to a fertile wheat country, then through its decline to a dust-made desert that impoverished thousands of farmers and forced them to seek homes elsewhere. The film was expressive of the whole of American agriculture's history.

Scene from "The River," United States Government documentary film produced by the Farm Security Administration



The director's technique in "The Plow" is well worth mentioning, in view of the excellent audience response. The film was well paced at all times, purposefully quick when Lorentz is attempting to create a feeling characteristic of the hectic pre-1929 days, feelingly slow when he is trying to impress his audience with the tragedy of those made homeless and landless by the all-pervading dust.

Of great importance was the musical score fashioned by Vergil Thompson for the film. The music, all characteristically American in theme, made skillful use of the banjo in the cattle roundup, of quick tempo in the expansion sequence, of slow and mournful cadences as the dispossessed family again headed west as had done their predecessors, and thus was a most important means of unifying the film.

"Plow" a Success

"The Plow" was undeniably a success, and Lorentz, his unit now incorporated with the Farm Security Administration, was enabled to continue in production. In October, 1936, the script completed, shooting was begun on the new film, "The River."

Up, down and across the Mississippi Valley and basin traveled the small camera crew, covering fully twenty thousand miles in their filming of the mighty river that drains two-thirds of the continent.

Selected by Lorentz to do the photography were the following: Floyd Crosby, A.S.C., 1930-31 winner of the Academy award for his camera work on Flaherty and Murnau's "Tabu"; Stacy Woodward, codirector of "The Adventures of Chico" and Willard Van Dyke, outstanding pictorial photographer.

One interesting incident that occurred during production furnishes a striking illustration of the very real differences between the newsreel and the documentary.

The camera crew, with the scripted shooting on the film all completed, had gathered at New Orleans just as the terrible Mississippi floods were at their height. Galvanized into action, they thoroughly "covered" the catastrophe, using the same material as did the many newsreel companies on the scene—the flooded streets, the plight of the homeless families and the rescue work.

Cause of Flood Added

The films released to a news-hungry public by the newsreels were concerned strictly with what had happened during the floods. Much of it was timely and impressive, all thrilling. In characteristic newsreel fashion, they stopped short of editorializing and drawing

causes and conclusions from their material. In reality, they might even be termed superficial.

"The River" utilized precisely the same material as had the newsreels. The effects of a mighty river on the rampage were thrillingly recorded, but to this was added the cause of the flood. Lorentz plainly stated that "... you cannot plan for water unless you plan for land: for the cut-over mountains; the eroded hills; the gullied fields that pour their waters unchecked down to the river."

He plainly depicted the menacing implications of the flood, and used as his conclusion a solution to the problem—the damming of the feeder streams that flow into the Mississippi, thus harnessing the giant and forcing him to provide cheap power for the valley population he had harmed.

The film was an eloquent plea for conservation and the Government's power program. The millions of people who saw the film realized for perhaps the first time the alarming situation in the Middle West and the part that the Government was playing in safeguarding the nation's interests.

And so dramatically was the theme presented that few forgot its message. This fact constitutes documentary's true evaluation.

In "The River," as in few other films, documentary's social role in helping to dramatize a national problem and indicate its solution is strikingly revealed. Other documentaries of note that were concerned with social themes were Frontier Films' "People of the Cumberland," which dealt with unionism's benefits in the Tennessee mountains, and the role of the Highlander Folk School in bringing to the Cumberland education, health and recreation, and Joris Ivens'

gripping "Spanish Earth," which dealt with life as it is carried on in war-torn Spain.

Goes Beyond Reporting

A word should be included about the documentary films of "The March of Time."

"The re-enactment of memorable scenes from the news of the day" often goes beyond mere reporting of the news to analyze and interpret certain important situations.

Notable were "U. S. Medicine: 1938," dealing with the topic of socialized medicine, the June 1938 issue on the League of Nations and a particularly fine discussion of the problem of wayward youth issued in 1935.

Much more of documentary interest is promised for later issues by Louis De Rochemont, the producer of the series.

Documentary's future in America looks particularly bright. Many of the important Hollywood studios have shown definite interest in the documentary film, and further developments along the lines of production are certain to be forthcoming.

In production in the East at present are Frontier Films' "Civil Liberties," based on the LaFollette senatorial committee on Civil Liberties' investigations; the new American Documentary Films' "The City," written by Pare Lorentz, and a new government film on unemployment tentatively titled "Ecce Homo" (Behold the Man) being directed by Lorentz.

With a shining record of past accomplishment and high expectations from films in production at the present, documentary seems well started on its way toward becoming a most important means of the creation of national opinion on subjects vital to contemporary American life.



Scene from "The Plow that Broke the Plains," Resettlement Administration

DOROTHY'S DOUBLE-DATE

By Cinemaker

— C A S T —

Dorothy Williams.....
.....18, unusually attractive
Bill Lawrence.....21, popular play-boy
Steve Newman...21, traveling salesman
Mrs. Williams.....Dorothy's mother
Miscellaneous assortment of atmosphere
players at a club dance (or lawn party
and tennis-court dance).

Properties

Club dance (or lawn party) acces-
sories and attendants, one taxi-cab,
two or three small automobiles, one
dance (or party) invitation-card, one
telegram, one telegraph messenger, 2
corsages with boxes for same, 2 brief
pencil-note inserts.

telegram towards her mother her mother
is opening the box. It contains an ex-
tremely beautiful corsage with a card
carrying an appropriate verse. (Insert
of card and verse, optional).

Scene 14 (Medium). Dorothy mo-
mentarily ceases her excitement over
the double-date predicament as she
clasps her hands in ecstasy over the
beauty and fragrance of the corsage.
Tenderly she takes it from her mother
and fastens it to her dress. Suddenly,
again bewildered, she unfastens the
corsage and replaces it in its box. She
can't wear Steve's corsage if she is
going with Bill. She turns to her mother,
who, incidentally, has been quite amused
with it all, in desperation. What shall
she do? Suddenly, what time is it? She
turns to the clock.

Scene 15 (Insert). Closeup of clock.
It is exactly 7 o'clock.

Scene 16 (Medium). Dorothy, gestur-
ing despair, tosses card and telegram
aside, and drops into a chair.

Scene 17 (Closeup). Her mother, smil-
ing amusedly. Her attitude is that Dor-
othy thoughtlessly got herself into the
mess. So, now, she must think her own
way out, if she can. (Fade-out).

Scene 18 (Long) (Fade-in). Exterior
of Williams home, revealing front door,
walk and street curb. A taxicab and
small car drive up simultaneously. Out
of the cab leaps Steve, asking the driver
to wait; and out of the small car comes
Bill, bearing a corsage box. They obvi-
ously do not know each other as they
approach the Williams front door to-
gether. (Closeups here are optional, de-
pending on how good the two actors
are.)

Scene 19 (Medium). Exterior of the
Williams front door. There is a bit of
Alphonse and Gaston business between
Bill and Steve, and finally one of them
rings the bell. As a sort of afterthought

the other also rings, a few seconds after
the former.

Scene 20 (Medium). Dorothy's boudoir.
Dorothy leaps to her feet and pleads
with her mother to answer the door for
her and pushes her toward the exit.
(Fade-out.)

Scene 21 (Fade-in) (Medium). Ex-
terior of Williams front door. Door
opens. Mrs. Williams admits the two
youths.

Scene 22 (Medium). Williams living-
room. Mrs. Williams takes the boys'
hats (or wraps), noting that one of
them is carrying a corsage box. (Alter-
nate close-ups of the two youths with
their attitudes toward each other left
to the imagination—and discretion—of
the director.) Mrs. Williams exits up
stairs.

Scene 23 (Medium). Dorothy's boudoir.
Dorothy nervously pacing to and fro.
Her mother enters and shoos her toward
the way down stairs, handing her the
boxed corsage, card and telegram, as
she does so. (Fade-out.)

Scene 24 (Medium) (Fade-in). Wil-
liams living room where Bill and Steve
sit waiting, Bill with the corsage box on
his knees. Dorothy enters, hesitantly at
first, and then—with smiling face, head
high and quick step, she tries to take
whatever's coming right in stride. Both
rise as she enters. Steve is nearest to
her. She approaches him first, thanks
him for the corsage that she is carrying
in its box which came by messenger.
As she turns to introduce them Bill
hands her the second box, mumbling a
few words as he glares at Steve. Like
all men who dislike being seen carrying
flowers, he is eager to be rid of the box
as quickly as possible. Dorothy accepts
the box, thanks him, and completes the
introduction. They shake hands, in a
slightly strained manner, perhaps even
a bit belligerent, and they have difficulty
in making conversation. (Closeups here,
again at the discretion of the director.)
Quickly, to relieve the tension, Dorothy
hands Bill Steve's telegram as she pan-
tomimes that it came from Steve, and
hands Steve Bill's card, gesturing that it
came from Bill.

Scene 25 (Medium-close). Bill looks
at Steve's telegram and then up at Steve.

Scene 26 (Medium-close). Steve looks
at Bill's card and then up at Bill.

Scene 27 (Medium-close). Dorothy
standing wide-eyed chewing on a corner
of her handkerchief, expecting nothing,
fearing the worst.

Scene 28 (Medium). All three, after
a split-second moment of stiff silence
and awe, suddenly burst into a forced
raucous laughter, the two boys first,
quickly followed by Dorothy. As they
laugh, Bill playfully gestures with
Steve's telegram at Steve; and Steve,

Scene 1 (Interior-Medium). Williams'
home. Dorothy's boudoir. Dorothy, as-
sisted by her mother, is dressing and
primping to go to a party. On a nearby
table is an invitation card. Pan camera
to pick up card.

Scene 2 (Insert). Closeup of invitation
card to dance (or party). Across the
corner is scribbled in a large bold hand:
Calling for you at seven. Bill.

Scene 3 (Medium). Continuance of
Scene 1. Dorothy dressing assisted by
her mother. (Fade-out).

Scene 4 (Fade-in) (Exterior-Medium).
Outside front door of Williams' home.
A telegraph messenger, bearing tele-
gram and corsage-box, approaches front
door and rings bell.

Scene 5 (Medium). Dorothy's boudoir.
Mother and daughter hear bell. Mother
stops what she's doing, goes to window,
looks out, and down. The window ap-
parently is over the front door. Mother
turns and hurries from room to answer
the door.

Scene 6 (Medium). Exterior of Wil-
liams home. Messenger waiting at front
door for response. Door opens. Mrs.
Williams accepts box and telegram,
signing for it, and closes door as mes-
senger leaves.

Scene 7 (Medium). Dorothy's boudoir.
Dorothy has finished dressing. Her
mother enters bearing box and telegram
and gives them to Dorothy.

Scene 8 (Medium-close). Dorothy
opening telegram in attitude of wonder-
ment and expectation. This quickly turns
to amazement as she reads telegram.

Scene 9 (Insert). Closeup of tele-
gram. It reads:

MISS DOROTHY WILLIAMS
6272 Euclid Ave.

Crescent, N. J.

REMEMBER ME? STOP YOU HAVE
DATE WITH ME FOR EUCLID
CLUB DANCE TONIGHT STOP
YOU MADE IT FOUR WEEKS AGO
AT LAST DANCE STOP AM ARRIV-
ING ON OVERLAND LIMITED
STOP CALLING FOR YOU AT
SEVEN REGARDS

STEVE NEWMAN

Scene 10 (Medium-close). Dorothy's
amazement turns to bewilderment.

Scene 11 (Medium). Dorothy and her
mother, the latter who is unstringing
the box brought by the messenger.
Dorothy's bewilderment borders on
hysteria.

Scene 12 (Medium). Dorothy, still
holding telegram in one hand, snatches
up Bill's card with the other. To her
mother she gestures frantically. What
is she to do?

Scene 13 (Medium). Dorothy and her
mother. As Dorothy continues with her
frantic gesturing with the card and

likewise, with Bill's card at Bill. Dorothy however, laughs with considerable restraint. It isn't funny to her. She's still worrying about the outcome. Finally, they all cease their forced laughter.

Scene 29 (Medium). Steve steps forward and pantomimes that Bill should go ahead and take Dorothy, that he'll bow out.

Scene 30 (Medium). Bill shakes his head, nothing doing. He gestures that Steve should take her and he'll leave.

Scene 31 (Medium). Bill and Steve, alternating the above pantomime with variations, another Alphonse and Gaston act.

Scene 32 (Medium). Dorothy, seeing this turn in the already sad state of affairs and not knowing how to handle it, decides that this is the correct time, and place, to have a good but mild set of the weeps, and a little "slight hysteria." This she proceeds to do and both boys rush to her rescue proffering their huge breast pocket handkerchiefs. It takes a little while to soothe her, which they finally do, and wind up by both gallantly agreeing they will both escort her to the dance.

Scene 33 (Medium). Which corsage to wear? That's the next question. This is solved as she finally fastens them both to her dress. (Fade-out.)

Scene 34 (Long) (Fade-in). Exterior Williams home. The three come out of the front door, briskly and gayly, walking three abreast to Bill's car. Steve pauses to pay off and dismiss the taxi-driver. Then all three board Bill's car and drive off. (Fade-out.)

Scene 35 (Fade-in) (Long). Euclid Club party in progress. (It may be a lawn fete with tennis court dancing or a clubhouse or a hired hall.) There are any number of couples, or extra girls, dancing, sitting, or strolling about. Bill, Dorothy and Steve, having disposed of their wraps, enter the scene, gayly, briskly, three abreast.

Scene 36 (Medium). Steve, as he looks about, notes with considerable complacency that there are many more girls than there are men.

Scene 37 (Medium). Pan camera to show a bevy or two of beauties, which Steve observes.

Scene 38 (Medium). Bill, on the other side, too, looks about and makes the same surreptitious observations as did Steve.

Scene 39 (Medium). Pan camera again for another group or two of femmes noted by Bill.

Scene 40 (Medium). The three standing, taking in the sights. A third youth enters the scene and asks Dorothy to dance. She hesitates a moment and then politely declines and gestures that she's with Bill and Steve and that she must dance with them first. The third youth exits. This precipitates another Alphonse and Gaston act about who is going to dance with Dorothy first. When they

decide to flip a coin, Dorothy starts to remonstrate about gambling over her, but, on second thought, thinks better of it, and does nothing but begin to chew on a corner of her handkerchief. Steve wins the toss and moves toward the dance with Dorothy, while Bill makes a bee-line for a girl that he's sort of had his eye on. (Fade-out.)

(NOTE—The dance, in general, may be used at the director's discretion for specialty numbers, such as "shining" the Big Apple, etc., which may be cut in here.)

Scene 41 (Fade-in) (Medium). A dance number is over. Steve has been dancing with a strange, but beautiful girl; ditto, Bill; while Dorothy seems to have been enjoying herself with a strange, handsome youth. However, the boys' new found partners, which latter are from separate groups, stay with them; while Dorothy's partner must excuse himself to rejoin his "date." (Fade-out.)

Scene 42 (Medium-long) (Fade-in). The party's over. Everyone is leaving. Steve and Bill nowhere in sight. Dorothy is standing alone. An attendant approaches Dorothy and offers her two small folded slips of paper. Angry with anticipation, she opens the two notes. They are both brief, penciled hurriedly in two different, large, bold hands. One is from Bill; and one from Steve. Each note states that the writer is letting the other fellow take her home.

Scene 43 (Insert). Close-up of the two notes together, held side-by-side, one in each hand.

Scene 44 (Medium). Dorothy furiously tears the notes to bits, yanks both corsages off of her dress, stamps on them and exits in a huff.

Scene 45 (Long). Dorothy approaching and entering a taxicab. The cab drives off with its sole and very angry occupant.

(Fade-out.)

Art Reeves Home From Cuban Trip

ART REEVES returned to Hollywood February 21 after five weeks in Cuba and Texas. In the Island Republic he installed much machinery in the Peliculas Cubanas, a laboratory in Havana. For that company he supplied developing machinery, sensitester, a re-recording system complete and sound recording system.

In this studio, which really is a fine outfit, with an investment of approximately \$250,000, the cameraman is

Tommy Hogan of New York and the sound man Benny Winkler of Hollywood.

At the Estudio Chic the Hollywood manufacturer installed a Reeves Recorder and in three other laboratories took orders for parts and accessories.

The Estudio Chic employs a crew from Hollywood which includes a director, cameraman, sound man, boom man, gaffer and make-up man.

Reeves stopped at San Antonio, Texas, on his return and accepted orders for laboratory machinery that will provide Kier and Phillips' Gulf Coast Studios with laboratory equipment. The studio will make Western subjects and also do commercial work for South Texas.

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NOTES FROM THE MOVIE CLUBS

Peninsula Cine Club

At the January meeting of the Peninsula Cine Club of Monterey, Cal., held at the home of Dr. Guy V. Rukke, the question was brought up of filming the ceremonies commemorating the forty-sixth anniversary of the organization of the First Christian Church, Pacific Grove, for the permanent records of the church, as a cooperative Club filming activity. The Rev. James H. Woodruff, pastor, was invited to the next meeting to assist in planning this project.

President Mathison proposed to form a club reference library of periodicals and books relating to our hobby, for free circulation among the membership, and Doctor Rukke offered to care for such a library.

Doctor Rukke then screened his films of our local herd of the now almost-extinct sea otter, his delayed-exposure reels of budding flowers, showing and demonstrating the complicated mechanism he employs for this latter work. He also projected his shots of three killer whales in a group, and various shots of the Rose Tournament Parade in Pasadena.

G. Allison Shoemaker screened the film records of the Lighthouse Club, Pacific Grove. After a general inspection of Doctor Rukke's workshop, including his projection room, delayed-exposure apparatus, titling outfit, darkroom and machine shop, the meeting adjourned.

At the February meeting the Rev. Mr. Woodruff gave us a brief talk pointing out the way for the future development and services of amateur motion pictures. Doctor Woodruff also will assist us in laying plans for the cooperative club filming activity of making a documentary film record of ceremonies early in April commemorating the forty-sixth anniversary of the organization of the church.

A general discussion of the latest ideas and an exhibition of the films of several members followed.

Los Angeles 8mm. Club

The February meeting of the Los Angeles 8mm. Club was held on the 14th at the Eastman Auditorium, Hollywood.

John K. Northrop, Chairman of the social committee, introduced the following new members: Orrin H. Williams, William D. Parsons, Wayne B. Harper, Leo Caloia, William J. Millar, Paul N. Armstrong and Lewis B. Reed.

Four contests to be held this year were announced by C. M. Drury, contest committee chairman: 50-foot reel contests in March and September; a semi-annual contest in June; and an annual

contest in December. Participation in the first three does not make a picture ineligible for the annual contest. Worth-while prizes will be awarded the winners in all contests.

Claude Cadarette, chairman of shut-in committee, told of that committee's plan to put on shows for the benefit of inmates in various hospitals, the first showing being scheduled for this month at the Children's Hospital, and requested members to cooperate in furnishing film for this purpose.

The three films won as door prizes at our annual banquet last December were shown, Leon Sprague's "Just Kids" winning honors over Volney Burdick and James Ridge.

During intermission the first issue of "Thru the Filter" for 1939 was distributed. This issue sets a new high standard for the editor to maintain during the year.

The remainder of the evening was given over to the showing of prize winning pictures from our annual contest.

V. P. BURDICK, Secretary.

Metropolitan Cine Club

The Metropolitan Cine Club has had a busy time of it this last month. A news reel truck with twelve of the members filmed the entire Winter Carnival Parade, and a broadcast "Movie Making for the Average Person" was sent out over station WMIN.

In view of the many favorable comments received, Station WMIN has requested the Metropolitan Cine Club to prepare and present another broadcast, which will be done in the near future.

With membership increasing rapidly, and with the quota small, the Metropolitan Cine Club urges all who wish to become members to make application at once. Address the Metropolitan Cine Club at the Angus Hotel, St. Paul, Minn.

HAROLD E. PIGGOTT, Secretary.

Philadelphia Cinema Club

To those 250 members and guests who were present at the February meeting of the Philadelphia Cinema Club on February 14 a real treat was presented in the film exhibited by John V. Hansen, vice president of the A.C.L., dealing with his trips through England and Denmark.

Mr. Hansen accompanied his film with a running comment that brought out the highlights of the trip, and to a great extent enabled the listeners to follow his movements with the camera, as he worked his way through England and Denmark.

In line with the policy of the Club, nominations were held covering the elec-

tion of officers for the ensuing year. Names put in nomination were the following: President, A. L. O. Rasch; vice president, Robert W. Crowther; secretary-treasurer, Horace Wilson.

As in each case nominations were closed after each name was seconded the nominations are tantamount to election.

Attention was also directed to the fact that the Annual Banquet to be held February 28 has had a ticket sale far in excess of any other previous banquet held by the Club.

B. N. LEVENE.

Chairman of Publications Comm.

Cinema Club of San Francisco

Meetings are now held at the Furniture Mart, 1355 Market street, on the third Tuesday evening of each month.

At the February 21 meeting Robert McCollister gave a blackboard talk on photo lenses. This was a non-mathematical treatment dealing with the elementary principles, the interesting highlights of the history and development of lenses, and technical features of interest to camera users. As Mr. McCollister is an optician as well as an enthusiastic cinematographer he is well versed on lenses and was prepared to answer questions.

The officers for the year are: President, Denis Donohoe III; vice president, Herbert Kelley; secretary, L. M. Perrin,

Film Production in Brazil

(Continued from Page 110)

era (usually obsolete) these "producers" would photograph anything that came to mind—trees, parks, highways, children, bathing beauties or almost anything, and cement them into one reel and record them with phonograph record background with a not too descriptive background in Portuguese.

Nevertheless the film was a "local Brazil-made film" and would fall into the class that would be forced down the throat of the theatre owner.

The latter would have to pay for this film and be obliged to run it by law. As a result most Brazilian theatre audiences go out in the lobby and smoke while this particular local product is screened.

Much has to be said about the valiant attempt of the Brazilians in their film producing business. I believe they will iron out their difficulties as time passes and that their production problems will smooth out as the new studios in Sao Paulo, Brazil, go into active production. These studios were still under construction when I was in that city about three months ago.

Brazil has a fine all-year-round climate of almost continuous sunshine, which is ideal for outdoor films. While I was making a picture of outdoor type I had three weeks of continuous sunshine.

residence 701 Urbano drive, San Francisco; 9455 Delaware; treasurer, R. E. Pettingill; directors, Robert McCollister, Edward G. Petherick and Vernan Hallett. L. M. PERRIN, Secretary.

Sherman Clay Camera Club

The Sherman Clay Camera Club has swung into the New Year with new life. Committees have been appointed and plans made for a very active year. What with the monthly meetings at the club, the social get-togethers at the home of Mr. and Mrs. Leo Hone, new movies to be made, contests and field days and the San Francisco World's Fair—the club has a full program on its hands.

The first field day of 1939 was held at San Francisco Airport on January 8. Airport and United Airlines officials showed the utmost courtesy and cooperated fully, thereby enabling the members to take some very interesting pictures.

All amateur movie fans in San Francisco or nearby who would like to join the Sherman Clay Camera Club please write to Mrs. Clifford Griffen, 1335 Washington street, San Francisco. We will be glad to have you!

EDWARD MOSSAWIR, Secretary.

Documentaries That Grip

(Continued from Page 104)

fellows in their native state. One of the sequences was where a great polar bear took in his teeth the end of an umbrella pushed into his face by a cheerful woman who apparently had no use for the device.

But the bear did, plenty. He strutted across the intervening ground to the pool of water that adorned his quarters, threw the umbrella into the lake and like a frisky goat went up in the air and dove down alongside the water shedder. From then while the scene lasted just by himself he provided theatrical entertainment, aided and abetted by the use and misuse of the donor's umbrella.

Visitors to the zoo jammed to get a close-up of the show. In the vernacular of the realist American theater press agent, the "turn" was packed with belly laughs.

"Cover to Cover" is the story of the writing of a book. It showed the stages from the creation of the manuscript to the placing of the finished article on the bookshelf.

"Street Car" is the tale of one of the newer brands of street service in Los Angeles. It was well and interestingly done by Albert Bailey.

"Mexican Arts and Crafts" was achieved in the capable manner that marks ERPI product.

Present also was Don Gledhill, executive secretary of the Academy, who introduced Miss Seton and incidentally manifested marked interest in the work of the forum.

Booth Heads B & H Crew at New York Dealers' Session

ANTICIPATING a record breaking dealer attendance and a program packed with unusual trade interest, J. H. Booth, Bell & Howell Company general sales manager, expects to assume personal charge of the company exhibit at the National Photographic Dealers Association Convention to be held at the Hotel Astor, New York, week of April 23, next.

Subsequently, Mr. Booth moved to Chicago as a development engineer in the Bell & Howell research laboratories, specializing in the design of amplifiers

and sound projectors. His next natural step was into the Chicago main office executive sales department, where he served as assistant sales manager three years prior to his appointment as general sales manager of Bell & Howell Company last year.

Booth is in constant touch with B & H Company's world-wide sales affairs, and anticipates that the coming N.P.D.A. convention may assume an international photographic dealer aspect due to the imminent opening of the New York World's Fair "just around the corner."

"This," opines Mr. Booth, "should be a trade show no enterprising photographic dealer, whatever his location, will miss."

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High Schools Compete in Second Scholastic Salon

The Second Scholastic Salon of Photography, comprising the best work of camera enthusiasts of the nation's junior and senior high schools, opened to the public at 2 p.m. Saturday, February 18, in Education Hall at the American Museum of Natural History in New York City. For five days the four hundred and fifty prints, which meet the highest standards of technical and pictorial excellence remained on display.

The Salon will be the second national exhibition conducted by the camera clubs

affiliated with the American Institute Science and Engineering Clubs.

Under the supervision of a committee representing the camera clubs of many large schools and the American Institute of the City of New York, the Salon is conducted on the same basis as professional exhibits. The awards of a grand prize, nine general prizes and fifteen honorable mentions will be made by a judging committee of the following experts: Edward Alenius, Walter Civardi, Fred Z. Kean, Lincoln F. Baar, Helene Sanders, D. J. Ruzicka, Nicholas Haz, Esther B. Schlanger and J. Ghislain Lootens.

What Proportion of Movie Fans Own Still Cameras?

There is something to this reported inclination on the part of many amateur photographers to divide their affection between motion picture and still cameras. Word comes from Seaside, Oregon, of an organization meeting held January 24 of a camera club. Seaside, it may be added, is a town of 1600 on the ocean near the Washington border. John Ritchie was elected temporary president and Louis Le Doux secretary.

Thirteen persons were present, six of whom are described as movie enthusiasts and twelve who own still cameras. That means five out of the six who own motion picture cameras also own still cameras. That fact strengthens the natural and somewhat logical belief that if there be any rule regarding a first love as to cameras the still camera is the choice.

There are solid and obvious reasons why this should be so. Not the least of these is the fact that a still camera is assumed to be the simpler and to entail less expense than does the motion picture; that is, if that really be a fact, and there are some who will deny it.

Statisticians will find material for their pencils when twelve out of thirteen members follow the still camera and but six out of the same number own motion picture equipment. Another fact that will be forced to attention is that on this basis one-half of those who buy still cameras later secure motion picture equipment.

Bell and Howell Employees Take \$2,000,000 Insurance

J. H. McNabb, president of Bell & Howell Company, announces employees of this Chicago motion picture equipment manufacturing firm have accepted a comprehensive new plan of cooperative group insurance which includes not only life and permanent total disability insurance, but also accident and health benefits, and indemnity for hospital confinement and surgical operations.

The new plan replaces a group life insurance plan which the company has carried for more than 12 years. Involving over \$2,000,000 for some 1100 employees in the Chicago and domestic branch offices, the entire new plan is underwritten by the Travelers Insurance Company of Hartford, Connecticut.

Morley Heads Advitagraph

The board of directors of the Advitagraph Corporation announces the election of J. Kenfield Morley as president and director. Mr. Morley joined the company in 1937 as vice president in charge of sales and advertising, after serving as sales promotion manager of Bell & Howell Company, Chicago, for several years.

The Advitagraph Corporation manufactures Flolite continuous motion picture projectors.

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RCA Constructs Largest Loudspeaker Ever Built

THE Perisphere, which in conjunction with the 700 foot Trylon has become the symbol of the New York World's Fair, has been utilized by sound engineers of the Radio Corporation of America to form the horn of the largest loudspeaker ever constructed—a sound reproducer so vast that thousands of persons will be able to stand at one time at its periphery.

The huge speaker, which will be used to provide music at the Theme Center, is but one of the many powerful sound distribution and reproducing systems being supplied by RCA for the fair grounds. In several instances new types of loudspeakers of unusual power and fidelity have been developed for the purpose.

A battery of thirty-six high and low frequency sound reproducers will be installed in a large concrete chamber below ground level at the base of the perisphere. This chamber, which is entirely concealed from view, effectively will couple the reproducers to the horn created by the perisphere and the surrounding ground surface forming a horizontal 360 degree circular speaker.

The massive unit is designed to cover the audible range of sound from 20 to 10,000 cycles. It will reproduce sounds so low in the lower register that they will be felt rather than heard.

Biggest Ever

Describing the sound system, Alexander Fisher of RCA said: "This huge speaker will be capable of reproducing sound with unusual fidelity over a range never before realized on commercial outdoor speakers. No comparable unit has ever been built because such a large sphere has never before been available. This 200 foot ball, set approximately 4 feet above the ground, gives us a circular horn 100 feet in depth, 4 feet at the throat and 100 feet at the mouth opening.

"This system will be capable of reproducing the low notes of the largest pipe organs and the tone equivalent of a cast bell of 30 feet in diameter, which will provide a depth of tone never heard before, because it is impractical to cast a bell of such proportions."

The nerve center of all sound throughout the fair will be in the Communication Building, where studios and control rooms are being constructed on a scale surpassing that of a modern broadcasting station. Several programs can be distributed simultaneously to all locations on the fair grounds through a master control desk. The entire control center, which takes in a generous portion of one side of the building, will be glass-inclosed for inspection by visitors.

16 mm. Color News Reels Make Real Hit in New York

Owing to the very favorable reception accorded its first film "On the Ice," The Newsreel Theatres Inc. announces the following schedule of 16 mm. sound color films to be shown in its new theatre on Fiftieth street in Rockefeller Center, New York:

February 2, "New York in Color"; 9, "Speed Demons," and 16, "New York in Color," second episode.

In commenting on this series W.

French Githens, president of Newsreel, said: "The advent of color newsreels is most significant. Our patrons are already demanding color newsreels just as they demanded sound newsreels shortly after the introduction of sound on film.

"These color films have been produced by Harold E. Wondsel, vice president of Sound Masters, Inc., who has done a marvelous production job. Sound Masters, Inc., deserves much credit for the two years' experimental work in 16 mm. sound color newsreels. It also opens up a tremendous field in educational and advertising color sound films."

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New Publications

Lifelike Portraiture

Lifelike Portraiture with Your Camera. By W. H. Doering. Translated and adapted by L. A. Leigh, F.R.P.S. American Photographic Publishing Company, 353 Newbury street, Boston. 108 pp. \$2.

In its opening the book announces it is not the intention of the author to give a history of portrait photography nor to tire the reader with the problems and difficulties which have confronted portrait photographers in other days. He does, however, allude to the pictorial value of the pictures made by David Octavius Hill as long ago as the middle of the last century—and with the most primitive equipment.

"This should serve to impress upon the budding artist that neither the modern high-speed lens nor the most versatile camera nor the latest super-sensitive emulsion are sufficient to produce good portraits," the author writes. "This can only be achieved by the worker who is truly enthusiastic about his art and who strives with all his might toward an ideal."

On the jacket is a summary of the contents. It describes them in few words: "Portraiture is probably the most popular branch of photography. This book will be popular with the amateur, as whatever means are suggested by the author they will be within the scope of the amateur portraitist. He is shown how to produce good portraits by the

simplest means, whether he is in or out of doors. The illustrations are instructive and exemplary, and the drawings showing lighting effects extremely clear and helpful."

Wellcome Handbook

The Wellcome Photographic Exposure Calculator, Handbook and Diary 1939 has been issued by the Burroughs Wellcome & Co. (U.S.A.) Inc., 9 and 11 East Forty-first street, New York, with offices around the world. It was printed in England. Like its predecessors, the Handbook is an up-to-date and reliable guide to the actual practice of photography and is designed to assist the photographer at every stage of his work.

The book is roughly 3½ by 5½ inches, is bound in red cloth, with a stout overlapping clasp. It has 236 pages, 40 of which are set aside for exposure records and memoranda and 56 of which are given over to a calendar.

Reviewing the course of the leaders in photography from the beginning the book points out that "Despite the revolution of apparatus, materials and reagents, the one fundamental remains unchanged—exposure." So in the course of the book many pages are devoted to exposure.

Attention is given in more or less detail to every factor entering into the making of a picture.

Film in National Planning

The Visual Education Society, with headquarters at Tanker Villa, Gowalie Tank Road, Bombay No. 7 (India), sponsors "Place of Film in National Planning," by K. S. Hirlekar, one of the founder members of the society. There is a foreword by the Honorable K. M. Munshi, Home Minister Government of Bombay.

The publication is the first of its kind in India and contains all relevant information and statistics regarding the Indian film industry from its inception to the present time. Therefore it will make a useful reference work for all who would keep informed as to world film affairs. The booklet is 5½ by 8½ inches and contains 36 pages.

Agfa Announces New Low Priced 16 mm. Reversible

Users of 16 mm. motion picture cameras will be interested to learn that a new Agfa 16 mm. film is now available at a price that makes it an outstanding value. This new film, Agfa 16 mm. Panchromatic Reversible, is fast, sensitive to all colors and provides sparkling screen brilliance on projection.

Image details are held clear by the notably fine grain of this film. Remarkably effective halation protection is provided by an opaque coating similar to that used on other Agfa reversible films. Made on safety base by Agfa, this film

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Agfa, 245 West Fifty-fifth street, New York; Agfa, 433 East Erie street, Chicago; Agfa, 1043 South Olive street, Los Angeles; Agfa, 121 Julia street, Jacksonville; Motion Picture Service Co., 125 Hyde street, San Francisco; Calvin Company, Twenty-sixth and Jefferson streets, Kansas City, and Associated Screen News, Ltd., 5271 Western avenue, Montreal.

How to Tone Prints

How to Tone Prints. By Arthur Hammond, F.R.P.S., associate editor American Photography. American Photographic Publishing Company, 353 Newbury street, Boston. 72 pp. 1939. 50 cents.

This book is the fourteenth in the Practical Photography Series. Its opening is "The Why of Colors." There comes a time for most amateur photographers, the writer goes on to say, when the unassuming black and white of a bromide enlargement, or even the warmer toned chlorobromide print, no longer looks good and they crave some pictures either in full, natural colors, or, failing that, of exchanging the sombre black and white for a more attractive color.

From this beginning the writer moves along through the paths of primary and secondary colors and tertiary colors. He says: "Although the purpose of this little book is to explain in detail some of the popular ways of toning a black and white print to get a wide variety of colors, it is necessary, in order to cover the subject completely, to mention briefly some of the simple methods of making a print in different colors."

The little book should prove a good one to have on the shelf of the professional or the advanced amateur.

Amateur Cinematographer's Diary

The "Amateur Cinematographer's Diary 1939" is in its third year. Its predecessor sold more than 70 percent before publication. From its attractiveness and most evident usefulness the present publication well might have established the same record. Its home is Link House, 300-304 Grays Inn Road, London, W. C. 1, and it was prepared with much pains by the editor of The Amateur Cine World.

The book contains over 250 pages. The first half and then some is devoted to general camera information and a little under the half is devoted to the diary. Among the contents in the earlier part of the publication are Exposure, Charts for Every Month of the Year, Table of Film Speeds and Groupings, Artificial Light Data, Lenses, Filters, Properties,

Factors, Complete Table of Filters for the Cine User, Processing, Projection, Sound and Silent; Editing, Tilting, Trick Effects, Customs, The Law, and General Diary Matter.

Amateur Movie Production

Moorfield & Shannon of Nutley, N. J., publish at 50 cents the second edition of "Amateur Movie Production." It is written by William J. Shannon. The book contains chapters on organizing a movie club, organizing an amateur pro-

ducing unit, hints on scenario writing, a sample scenario and two scenarioettes for film tests. Also space is devoted to making up for the camera as well as other helps for moviemakers.

The new edition is printed in bulk paper, pocket size 5 by 7 inches, and bound in leatherette cover.

Art Reeves' Catalogue

In twenty-four pages and cover Art Reeves has issued a catalogue 8 by 10 inches in size and printed on heavy paper.

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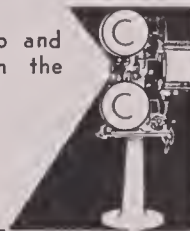
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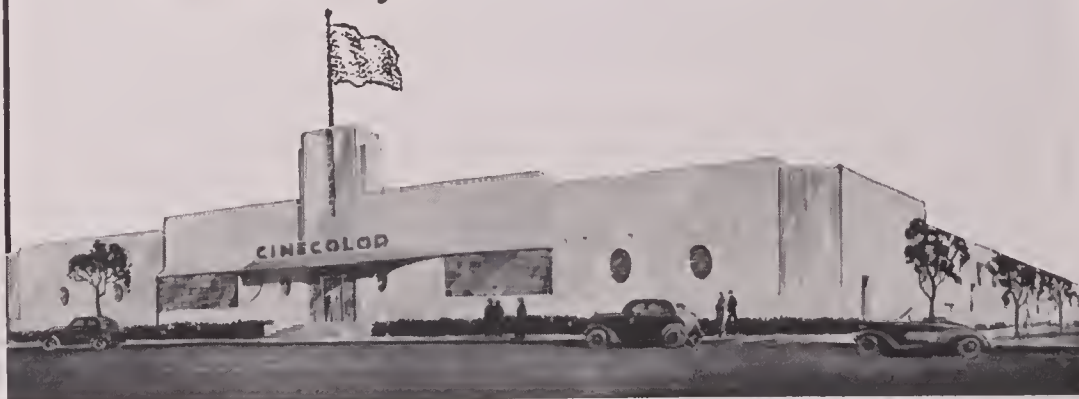
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The book tells of his motion picture equipment as it has been developed for studio and laboratory since 1929. In it are described among other devices his automatic developing machine, sensitizer, variable area sound system, variable density sound system, single system, rerecording system, microphone boom, Reeves Lites, sound accessories and laboratory accessories.

The book is amply illustrated. This includes also the several brands of Reeves lites, in which amateurs may prove to be interested.

New Agfa Booklet on 35mm. Available

A new fifty-two page booklet of special interest to users of 35 mm. miniature cameras has just been published by Agfa Ansco Corporation. Titled "Selecting Your Miniature Camera Film," the new booklet is profusely illustrated and covers in a thorough way the applications, technical characteristics and practical usage of the six 35 mm. films manufactured for miniature cameras by Agfa.

The information brought by this book should greatly assist any user of a 35 mm. miniature camera to make a film selection that will better fit his requirements on each picture-taking occasion.

Explaining in detail the differences between the six films and the types of subject matter for which each is best suited the booklet gives practical information on such subjects as speed, color sensitivity, contrast, grain size, latitude and halation protection of each film.

There are, in addition, separate sec-

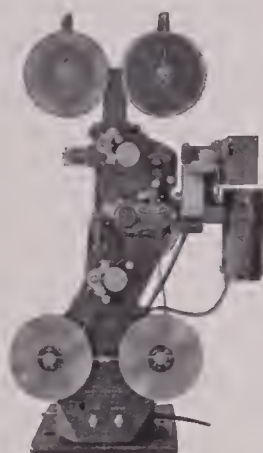
tions dealing with exposure information, development and packaging, in which speed ratings, filter factors and time gamma data are fully discussed.

Copies of "Selecting Your Miniature Camera Film" are available on written request to Agfa Ansco Corporation, Binghamton, New York.

Free Films for Schools

The book that teachers have been awaiting for years. It lists alphabetically 1400 free films from over 300 sources throughout the United States. Cross references under 60 different headings show at a glance what films are available for school projects. Physical data of each film is recorded, the number of reels, whether 16mm. or 35mm. and whether sound or silent as well as giv-

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Willoughby's Bargain Catalogue

Willoughby's, at 110 West Thirty-second street, New York, has issued Bargain Catalogue No. 1238. It is of twenty-eight pages and packed with prices of a wide assortment of equipment.

Central's Fortieth Sale

The Central Camera Company of 230 South Wabash avenue, Chicago, has issued its fortieth annual anniversary sale catalogue. The booklet contains sixty-four pages and is heavily illustrated.

Cinematone Leases Cinema

Cinematone Corporation, headed by Dr. Gordon Keith Woodward and W. P. Falkenburg, have taken a three year lease on Associated Cinema Studios. The company will make its own phonograph and radio transcriptions. Also it will produce a series of short subjects, besides renting space to independent outfits.

Gundlefinger Is Secretary

A. L. Gundlefinger, Cinecolor vice president and technical director, has been elected secretary of the West Coast branch of the Society of Motion Picture Engineers.



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TELEVISION MAKES DEBUT AT SAN FRANCISCO FAIR

VISITORS to the Golden Gate Exposition at San Francisco will see practicable home television demonstrated and will themselves have an opportunity to be televised, according to officials of the Radio Corporation of America. This will be the first public showing of "high definition" electronic television on the Pacific Coast.

RCA has erected a large building, with over 5000 square feet of space, on the Exposition grounds to house the television studio and viewing room. Radio facsimile, which will print news bulletins, pictures and other text in the home, will also be shown, in addition to displays representative of every phase of the radio art.

Guides will direct visitors to the television studio, where they may stand before the electric eye of the television camera and be seen and heard by other visitors in an adjoining room to whom they will also be visible through a glass window. Lighting equipment similar to the kind used for motion picture production will provide the necessary illumination in the studio.

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In the viewing room, the images will be seen in black and white on the fluorescent surface of the Kinescope receiving tubes, either directly or as reflected from a mirrored surface. The Kinescope tubes are twelve inches in diameter and give a television image approximately 8 by 10 inches in size.

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The RCA Exhibit, which will be near the main entrance to the Exposition on Treasure Island, will also include modern broadcasting equipment, marine radio communication and safety devices and many other important services of the radio art.

A large part of the building will be furnished as a comfortable lounge in which visitors may rest while listening to recorded music and viewing interesting murals and photographs depicting the highlights of the radio industry.

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G. E. DEVELOPS PROCESS TO REMOVE GLARE FROM GLASS

GLARE from reflected light, which has made it difficult to see pictures framed under glass at certain angles, has been removed by a new process developed in General Electric's research laboratory by Dr. Katharine B. Blodgett. By applying thin chemical films to the surface of glass Dr. Blodgett has been able to nullify or neutralize rebounding light rays with the result that pictures framed with glass so treated appear as though there was no glass at all, regardless of the angle viewed from.

The same is true with clock faces, show cases, display windows; in fact, any place where glare is caused by light reflections on glass.

The refractive index of any type glass is easily determined. This known, the process consists of building or attaching to the glass a very thin transparent film of about four millionths of an inch, or exactly one quarter wave length of light, in thickness.

As light falls upon the film, rays are reflected from both the upper and lower surfaces. With the film exactly one-quarter wave length in thickness, those rays coming from the outer or upper surface are equal in intensity and opposite in phase to those rays reflected from the lower surface, thus counteract one another and no light is reflected.

"The process is still in a laboratory stage," Dr. Blodgett explained. "At present it has not reached such a stage that it can be offered the public. However, we are hopeful that we may soon do so.

"Glass is treated by dipping it into a tank of liquid, on the surface of which is a film of insoluble soap but one molecule thick. As the glass is pushed down one layer of the film becomes attached, and as it is pulled up another is applied. Thus each immersion adds two layers of the film, each but one molecule thick.

"The dippings are continued until we have built up about 44 layers which form a thickness of one-quarter wave length, or about four millionths of an inch. We can measure or determine the exact thickness of the film at any time, although it may be thinner than any substance we know of today, by an optical process.

"The non-glare treatment of glass also promises to have a widespread application in the field of camera, telescope and all other type lenses," Dr. Blodgett pointed out. "It is commonly known that reflection from the surface of any lens causes from 4 to 5 percent loss in the light transmitted.

"Since this is true to both front and back surfaces, there is a light loss of

at least 8 percent in each lens. With some of the better type cameras, using three or four lenses, the loss of light reaching the plate or negative is 25 to 35 percent.

"With telescopes and submarine peri-



Framed picture of Dr. W. R. Whitney, former director of G-E research, in which part of the glass is treated to prevent glare.

scopes, where a larger number of lenses and prisms are used, the light loss is

still greater. In some periscopes it is as much as 75 percent.

"With the exception of the slight loss by absorption in the glass itself the film treated lenses would transmit 100 percent of the light. With an actual test in the laboratory, a piece of glass was treated and by doing so we increased the light transmission from 92 percent to 99.2 percent."

Sound and Color on 16mm.

A very recent addition to the Bell & Howell sound film library is a film which marks a long-sought milestone in 16mm. film history. It is the first direct reduction by Technicolor of a major Hollywood cartoon production. The first release is "Jolly Little Elves," the charming fairy-tale of the poor cobbler who befriended a hungry elf and was repaid by the nocturnal labors of the whole elfin clan until fame and wealth were his.

Other titles in the series include "Candyland," "Fox and Rabbit," "Springtime Serenade," "Three Lazy Mice" and "Toyland Premiere." All are Universal releases, exclusively distributed in 16mm. by the Filmosound Library.

There are approximately 205 motion picture theaters in Peru, all of which are reported to be wired for sound with the exception of about 25 small theaters situated in remote sections of the provinces, according to a report to the Department of Commerce. Practically all of the motion picture theaters located in the Lima-Callao district and in the other commercial centers of the Republic are equipped with two projectors.

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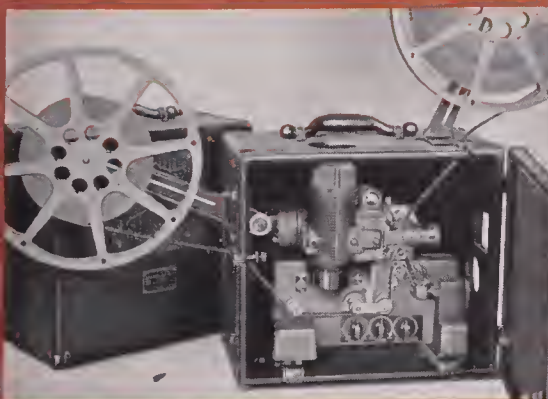
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April
1939
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Published in Hollywood by
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Takes Poll

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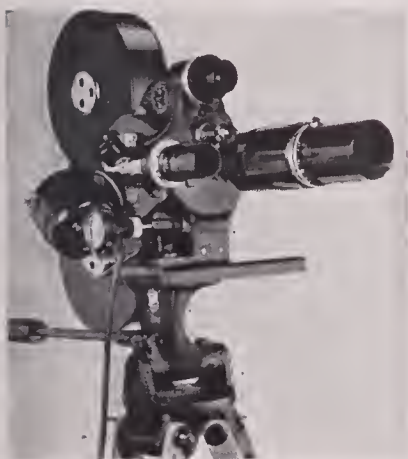
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THE COVER

HERE is the rehearsal of a scene for Universal's "Three Smart Girls Grow Up." At the center left, standing just under a lamp, is Cameraman Joseph Valentine, A.S.C., in light clothes, and just in front of him in dark clothes and wearing glasses is Director Henry Koster. At the right in front, encircled by a huge loop which prevents interference by other dancers, is Deanna Durbin and Douglas Wood.

Betty Davis in Warner's "Juarez."

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Entered as second class matter November 18, 1937, at the postoffice at Los Angeles, California, under the Act of March 3, 1879.

GLENNON'S "STAGECOACH" WINS CAMERA HONORS

BERT GLENNON romped under the wire a winner of the photographic honors on Walter Wanger's "Stagecoach" in the Hollywood Reporter's correspondents' poll for February. His margin over the nearest competitor was more than 2 to 1, all the more notable by reason of Number 2 being a color picture photographed by top men.

The picture made a remarkable record in the competition, scoring seven of the ten first places for which it was eligible. These were for the best picture, for the best director, John Ford; best screenplay, Dudley Nichols; best supporting actor, Thomas Mitchell; best incident performance, Donald Meek; best cinematography, Bert Glennon, and best musical score, Richard Hageman, Frank Harling, John Leipold and Leo Shuken.

"Stagecoach" is one of those rare productions sometimes encountered where the action flows so smoothly that at the finish the average beholder is quite likely to register the impression, either vocally or mentally, "It seems perfect: 100 percent."

It had a story, splendidly told and directed and played and photographed.

It had humor and humanity, romance and suspense.

Speaking of suspense, the direction was reminiscent of the work of Dave Griffith in the one and two reel Biographs as well as in later features; but suspense that was genuine twenty-five or thirty years ago and in which field of controlled screen drama it is doubtful if it has advanced appreciably today.

John Ford has the courage—and the skill—to stop his physical action and give mental action a chance.

Thrill in Opening

Although it was a week ago to a day this writer sat under the spell of "Stagecoach" and other pictures have been seen in the intervening days, the memory still vividly retains the thrill that accompanied the opening long shots of sky and mountain and cloud.

The ticket holder need not be a maker of pictures to fall under the thrall of the man making such a scene as was thrown on the screen at the beginning of the film. The interest in the subject was at that moment established. If following that opening even if the subject proved to be just so-so it would get by; be carried by.

But here as intimated there was no let down, not in a single department. And out in front with the best of the various chiefs and staffs was Bert Glennon and his camera crew. Surely is it a picture to be seen to be appreciated, with added pleasure and satisfaction for the photographic minded.

The period of the play is in the eighties. Its duration is forty-eight hours. It is staged in what must be one of the most picturesque spots in these United States, especially in those that were exposed in Monument Valley, Arizona.

Also locations were selected in Kayenta and Mesa. In reach of Hollywood there were sites in Kernville, not 200 miles away; Dry Lake, Fremont Pass, Victorville, Calabasas and Chatsworth.

The making of the picture and its success demonstrates that the Western subject still is secure fundamentally in the minds of picturegoers. That, too, is the voice of experience. Periodically we are told Westerns are on the wane, that the public is fed up on the type. And just about as that time arrives also there comes along some production that in conception and execution matches

*Just one
of the
rarely
beautiful
scenes in
"Stagecoach."
Andy Devine
is in driver's
seat, with
George Bancroft
beside him.
John Wayne
shown at rear.*



in theme and treatment the best that has been done in all the many fields of screen work.

Western on Map

Erroneously just prior to the advent of "The Covered Wagon" we were told the Western was out of circulation. Yet to prove it the picture, in a comparatively small house to be sure, ran for over a year in Broadway in New York. Again the Western was on the map.

In the years that have intervened the same thing has happened over and over. Yet always has come along some outstanding story of the pioneer, some story that told not of the artificial but of the hardy life, some tale that visioned lives of men and women undergoing hardships that their children might enjoy an easier existence.

In these pictures the photographer has performed his share of the work—has contributed to the painting of the glories of life in the open, has softened the hardness of the West and revealed its beauties; has idealized the glamour of the vastness and emptiness of the great open spaces to delight the eyes and mind of the city dweller who day in and day out and only for the distance of a few short blocks looks only upon brick and stone and cement.

A couple of months ago this magazine printed a story of an interview with Bert Glennon regarding the picture of which we now are speaking. At one point the interviewer suggested that in the scenes he had seen made for "Stagecoach" he had noted the sets all had ceilings.

The cameraman replied that was true and was a break from the conventional, but was necessary because the sets were low and as a certain reality of perspective is obtained by the use of the 25mm. lens, the cameraman continued, which included ceiling in nearly every shot, the elimination of the conventional backlight or "Hollywood halo" was forced.

Backlight and Roundness

"Believe me, it is quite difficult to obtain 'roundness' of image without the use of backlight, but in order to follow out the photographic idea, which was 'reproduce the method of lighting as used in the Sargent paintings of the early West,' it was necessary to use backlight only when it was the source of the light."

Asked if he always had a photographic idea to follow when lighting a motion picture story Glennon replied the answer depended on circumstances. "If the production warrant," he continued, "a photographic idea is adhered to religiously. Of course, if the producer is forced to hold the production to a tight schedule the only way one can make time is what I call a formula in lighting which lends itself to speed."

For his photography on "Lloyds of London" Glennon explained that this period picture with its costumes and old painting settings was photographed to create the idea of mellowness and texture throughout. Incidentally the Royal Photographic Society of Great Britain awarded him an associateship for his work on this picture.

In "The Prisoner of Shark Island," also of Twentieth Century-Fox, the effect of steel etching was strived for in all scenes, especially in closeups. This effect was secured by the use of blue light.

"Hurricane," a Goldwyn subject, was a deliberate attempt to feature sound, music and photography—a cooperative determination to coordinate these three elements to produce a definite emotional effect upon the audience.

Will Bring Return Visits

Returning to "Stagecoach," it may be said in all truth it is a production which will lure its first patrons for a second visit. For a second and a third visit will be necessary before any average or even peculiarly gifted person out front will be able to absorb all the features of which it is made—and which make it great.

It is a three-way picture—in writing, direction and photography. Starting with those three blessings the division of acting need give no concern. For again quoting a remark confided long ago by Daniel Frohman, "No great actor was ever made except in a great part."

Great parts there are in "Stagecoach"—and they are carried by Claire Trevor, John Wayne, Andy Devine, John Carradine, Thomas Mitchell, Louise Platt, George Bancroft, Donald Meek, Burton Churchill, Yakima Canutt (in a most hazardous double), Tom Tyler, and the many horsemen who performed boldly and casually the most hair-raising stunts in the Indian fight.



Director John Ford, at extreme left, looks over a scene for Walter Wanger's "Stagecoach," while Cinematographer Bert Glennon, hatless and in light suit, verifies the camera position. The "shot" was made on location in Arizona, the locale of much of the production which depicts the sociological part the stagecoach played in settling the west.

A.S.C. MEN TURN OUT TO DISCUSS METERS

ARE today's photoelectric exposure meters suitable for studio use? In what respects should they be improved? How can meters best be used?

These questions were discussed at the February meeting of the American Society of Cinematographers, under the chairmanship of Past President Daniel B. Clark. The increasing professional interest in such meters and their use was indicated by the largest attendance recorded at one of the society's meetings in over five years.

The keynote was struck by Chairman Clark, who opened the meeting with a demonstration of the methods and equipment used for coordinating meters at the Twentieth Century-Fox studio.

"During the past year," he said, "there has been a great deal of informal discussion about meters and the best way to use them. Such informal arguments across a lunch table can only be helpful to the two or three men who participate in them: they don't help any of the scores of other members of the profession who aren't at that table. Yet virtually all of us have been giving a lot of thought to meters and their use.

"Tonight's meeting is an attempt to bring that thought—pro and con—out into the open, where it can do some practical good to the industry. We have an unusual opportunity tonight not only to formulate the collective opinion of the directors of photography about the subject, but to learn from each other and from our guests practical facts about the different methods of using meters, and about the leading types of meters available.

All Should Gain

"We, as members of the American Society of Cinematographers, are generally recognized the world's outstanding practitioners of motion picture photography. Some of our guests include the heads and technical experts from most of the laboratories that process our film.

"Other guests include representatives of the chief firms manufacturing photoelectric meters. I am sure we can all gain by a mutual discussion of this important subject.

"For my own part, only the thought that some one must start the ball rolling impels me to take the floor. I realize that my own small experience with meters is negligible compared to that of many of the rest of you.

"But I want to stress one thing at the outset. This is that the use of a meter need not restrict the individuality of any cinematographer, or force all of us into a rigidly standardized method of working. None of us would want that or permit it.

"On the other hand, I firmly believe that the intelligent use of these devices can take a great burden of purely routine, mechanical worries from our minds, leaving us as directors of photography more free to express individual photographic artistry.

"The guidance of a meter can keep us within the purely mechanical limits set by film-speeds and processing, and simplify our efforts to keep our work at a consistent exposure level or, to put it differently, to keep our negative at a consistently correct density from day to day.

Normalcy Important

"Between changes in negative development and the wide range of printing light adjustments we have a considerable amount of potential control over our work. But we all of us realize that, for a really faithful reproduction of what the camera sees, normal development of the negative and normal printing of the positive are necessary. To

Contrast can be visually deceptive—the white centers of all three circles are the same shade, but contrast between this white and the black, dark gray and light gray surrounding circles makes the center of the black circle look whitest.

maintain this normalcy, normal exposure values are equally necessary.

"The way most of us now work the 'key light' is the keynote of the lighting and exposure of every scene. All the rest of the lighting is balanced in relation to this, to produce the desired shadows, highlights and halftones. The exact way these gradations are balanced constitutes the artistic stock-in-trade of each individual.

"If the key light is incorrect—above or below normal—the rest of the lighting will be similarly off key, and the result on the screen will not be the normal reproduction the cinematographer is after.

"Under modern conditions, with today's fast films and low lighting levels, it is terribly easy to make such slight errors. Even a little eye fatigue—



such as we may get without realizing it, from an overlong glance directly at a single strong light—can do it.

"The meter gives us a chance to peg this key light to an accurately measured normal standard, from which we can balance the rest of the lighting visually, confident that we are working from a normal start.

"The same method can be used on exteriors if we remember that the strong and uncontrollable illumination of the background now becomes our key light, and we must balance the lighting on the actors to it.

"In other words, outdoors we have to reverse our usual interior lighting technique. In the same way we reverse our meter technique, taking a reflected light reading of the background, considering this as the key light, and visually balancing the light on the actors to it."

Testing Meter

Clark then proceeded with a demonstration of the methods of testing meters used at the Twentieth Century-Fox studio*. In this, the meters are tested daily against a standard light-source in a portable testing-box. With the light brought to a known intensity by means of a rheostat and ammeter, the meter, if in normal condition, should give a predetermined reading.

Among the conditions most notable in affecting the accuracy of the meters, Clark pointed out, were changes in humidity. During a recent period of unusually low humidity, he said, all of his studio's meters gave uniformly low readings, while previously, on a trip to the South Seas, he had found his own meter reading abnormally high.

In regard to this, representatives of both the General Electric and Weston organizations stated that meter cells are affected by changing humidity, but that great care is now being taken to assure that the cells are hermetically sealed against such conditions.

Clark described tests which had proved that by measuring the key light with an accurate meter the cinematographer could predict with almost perfect accuracy the printer-light upon which his scene would print. This, he pointed out, would do much to eliminate guesswork in print-timing.

Visual Contrast Deceptive

In visual print timing, he stated, visual contrast can often be deceptive, as shown by the accompanying chart, in which the centers of each of the three circles are of the same pure white, but surrounded by circles of varied densities, which make the white areas appear different.

The same optical illusion is noticeable in visual inspection of negatives of varying contrast, and can introduce errors in print timing. If, by means of a meter, exposure values can be fixed at a normal standard with such accuracy that all normal scenes can be expected to print within a range of two or three

printer lights, as had been found practical in his studio, this visual timing error would not be so dangerous.

Several other speakers pointed out the fact that reading a meter only on the key light gives no indication of visual contrast, which can be a vital factor in influencing overall exposure. The key light illuminating a player in a white costume may be correct in itself, but overall exposure values and lighting balance will inevitably vary according as the player is photographed in front of a dark, light or intermediate toned background.

Since this is the case, would not a reflection-reading meter, capable of measuring these visual contrasts, be the more accurate instrument?

Technicolor Methods

It was also pointed out that a reflection-reading instrument seemed preferable for exterior use, since the problem there was generally one of balancing shadow lighting, in the form of either reflected natural light or artificial light, to form an acceptable balance with intense direct natural light which cannot be controlled except over relatively small areas.

Several Technicolor cinematographers and technicians spoke of the Technicolor technique of using meters. On interiors, a special direct-reading meter is employed, measuring the highlight side and the shadow side illumination falling on the subject.

On exterior scenes, a reflection-type meter is used for measurements of overall reflected light.

In any event, the meters are used as a guide to the individual cinematographer's judgment. The meter readings

Hugh Herbert Much Put Out When Poll Parrot Comes In

Birds that talk should stick to their own vocabularies.

Hugh Herbert ventured that emphatic opinion when an impudent poll parrot stole his famous "Woo-Woo" phrase and then used it to mock the comedian until Hugh "blew up" in a motion picture scene.

Herbert was on location in the Los Angeles residential district with a Universal company filming "The Family Next Door." Several times during the morning a parrot in a nearby yard disturbed the players by constant chattering. Finally a property man was sent to ask the pet's owner to keep him quiet.

Then Herbert went into a scene in which he was handed a traffic ticket by a police officer.

"Oh, a ticket," exclaimed the comic. "Woo-Woo!"

"Woo-Woo . . . Woo-Woo . . ." echoed the parrot gleefully.

"Woo-Woo yourself," roared Herbert. "That's my line, and it's copyrighted. Please have someone take that parrot aside and tell him to lay off."

need not be followed rigidly, and can be disregarded at the cinematographer's discretion. The use of the meter, however, was agreed to be of great value in speeding up the routine of lighting, and in simplifying the task of maintaining consistently correct exposure values.

Both the chairman and several who spoke from the floor stressed one weakness of all meters now available, in that it is too easy for a cinematographer to misinterpret meter readings—to make an incorrect reading, or to deliberately make the meter read what he thinks is correct.

With reflection type meters a slight alteration in the angle at which the meter is held, allowing its cell to scan more or less of the sky on exteriors, or of the back lighting on interiors, can intentionally or unintentionally introduce false readings.

With direct reading meters, a few inches' difference in the position of the meter relative to light source and subject can, as was proved by impromptu experiments made during the discussion, change the reading by several printer lights.

Seid Makes Suggestion

To this end, the suggestion of George Seid, chief of the Columbia Studio laboratory, was received with acclaim. He stated that from experiments conducted at his studio over a period of nearly a year the ideal meter would be one which read reflected light from the camera position, preferably through the actual optical system of the camera.

Such a meter would necessarily be extremely selective, capable of being trained on minute areas of the camera's image, so that the actinic value of any desired area—highlight, halftone, shadow, key light, filler light or back light—could be read directly in terms of density or negative values.

With such a system, it was agreed, the majority of the variables now existing would be eliminated. Only the light actually making the exposure would be measured. No variations in meter placement could enter the problem, or cause errors. Lighting and tonal contrasts could be measured with uniform accuracy, both individually and in their overall effect upon the picture.

In addition, such a device would make possible several things difficult or impossible with present meters. Among them would be accurate measurement of lighting in all types of dolly or boom shots, and last-minute checks on lighting and exposure immediately before starting a take.

Such readings, moreover, could be taken at any time, with less disturbance to cast and director than is now possible. It was agreed that the development of such a meter would be of the greatest benefit to cinematography.

* See article by Mr. Clark, American Cinematographer, January, 1939, pp.6-7.

FILMING ALOFT:

With Minicam or Movie

By ORMAL I. SPRUNGMAN

Photographs by the Writer



Filtered clouds always add interest to airplane shots. These pontooned ships are shown on the chalky Tanana river at Fairbanks, Alaska.

FETCHING candid shots earthward through inch-thick goggles while zooming along at two miles a minute, half a mile up, provides a dizzy thrill not usually found in more sombre types of shooting.

Once limited only to mapmakers utilizing costly cameras and huge negatives, aerial photography has finally become another lens-clicking novelty for the cameraman-of-the-street.

Today, with comfortable, low cost air transportation, any minicam having a fast lens and offering multiple exposures can find fresh camera angles and new subjects up under the clouds.

Because of its inconspicuous size and weight and great depth of focus, the minicam is particularly suited for aerial assignments. It can be swung to eye level position speedily, and manipulated with ease even in cramped quarters.

Another advantage is that most minicams spool film rolls permitting up to 36 exposures on a single change, thus preventing loss of valuable picturemaking moments while engaged in switching rolls in midair.

Airports Naturals

Airports are naturals for excitingly good candid snaps. If there is a fair-sized landing field in your community, make a list of all picture possibilities from the ground, taking note of lighting at different times during the day.

You might start with a longshot of the layout itself, swinging in for closer views of the various buildings, the planes and informal closeups of local pilots.

Wherever possible, secure unusual effects by "framing" your shots. Step well inside of a hangar, for instance, and frame a shot through the opening showing airplanes grounded on the outside lot. A group of two or three pilots silhouetted while chinning in the doorway will add a human interest touch. Window-framing is likewise striking.

Better still, take a low position beside

a silver-winged plane and shoot in such manner as to frame another plane probably warming up in the background. Perhaps the wing, nose or prop can be composed to darken one side of the picture to maintain proper balance.

Leash on Wrist

Framing is also useful when filming from the air. An occasional glimpse through the right or left wing gives depth to distant ground views. Some photographers, however, prefer not to include any part of the plane in their shots since they feel that the foreground will be out of focus, and thus spoil an otherwise well-detailed picture.



Despite the haze, which is bugaboo of air filming, note the effectiveness of using wing as "frame" for distant shot of ribbon-like Alaska stream.

The tendency for close objects to appear indistinct when viewing distant objects is natural for human eyes, and any variation from this will appear artificial. A small lens opening in bright sunlight, however, will help to eliminate much of the fuzziness of near objects when the focus is set at infinite.

When filming from open cockpit planes, a leash for your camera slipped around your wrist will prevent your outfit from slipping from your grasp while picture taking. Such a leash can be made with a cloth cord or a length of rawhide slipped through either the camera handle or a small hole drilled in a tripod screw inserted in the base.

Helmet and goggles are usually worn when riding in open cockpit planes, and, though goggles may interfere with sighting through the camera viewfinder at first, this difficulty is easily overcome through continued practice. With the wind roaring by and the prop splitting your ear drums, such filming provides more fun than a comfortable ride in a cabin ship.

From transport planes there is always the danger of the sun striking the window through which you shoot, thus causing bad reflections. Hence, it is always advisable to find out beforehand which way the pilot plans to point the nose, so that the proper position may be taken for filming on the shaded side. As a further precaution, be sure that your window is polished brightly both inside and out.

What to Avoid

Exposures differ according to available light and the color of the objects being photographed, ranging from f/4.5 to f/8 with supersensitive film at a shutter speed of 1/100 to 1/300 of a second, depending upon elevation and speed of travel.

Filters are often quite necessary for air filming, the infra-red, green and K-2 filters being most popular. Ordi-

When riding in open cockpit planes, use a leash to secure camera to wrist and prevent accidental dropping.



narly, amateurs should not attempt air shots when the sky is too hazy, for results are rarely satisfactory.

With the camera set at infinite and the shutter speed corrected, the only change need be in the lens opening corresponding to changing light conditions. Filming at noon when the light strikes objects flatly produces uninteresting results.

Early morning or afternoon flying presents detailed ground views with shadows to give distant scenes a natural third dimension. If a lens hood is not available for your camera, every effort should be made to shade the outfit to prevent light from hitting the lens and creating those bugaboo "ghosts."

Reeling off movie film up under the clouds is no great chore either, for present-day 8mm. and 16mm. cameras are made to order for aerophotography. In fact, some excursion flights are timed to permit camera fans to take advantage of filming opportunities.

At West Yellowstone, for instance, a ten-passenger Western Air Express transport takes off each summer weekend for a 150-mile flight over geyserland, perfectly timed to reach Old Faithful during its hourly eruption and to circle the geyser basins, the canyon and the Tetons for angle shots.

But Not in Midday

Usually such flights over mountain country are made for safety's sake in early morning or late afternoon when the weather is less bumpy. Similar flights are scheduled elsewhere, and the moviemaker who goes aloft can bring to earth exciting footage.

Because air time passes rapidly, load your camera with a fresh roll of film. If the footage is consumed before the flight is over, change rolls quickly without wasting time, and plan the shiftover while flying through the less interesting country. Unless you are wealthy enough to charter a plane of

Wheel, nose and wing are used effectively here to "frame" a background of grounded planes.

your own, you will have to act fast to capture each scene.

As in minicam filming, certain precautions must be taken when cine filming. Strap the camera to your wrist or use a leash if you film from an open plane. While your focus will be set permanently at infinity, watch your f/openings. When shooting distant objects you will not be bothered by plane speed, but you may encounter considerable engine vibration. Consequently, do not hold the camera against any part of the plane. Instead, cushion it with your hand to absorb some of the shock.

The proper camera angle is very important in air cinematics. While the vertical or horizontal view produces novel effects if not overdone, the oblique picture is perhaps the most pleasing and least fatiguing to watch. The oblique angle is the favorite of commercial air photographers, while the vertical shot is best for mapmakers.

Close to Ground

Shots taken from too high an elevation will lack detail and movement, while those taken closer to the ground will have vitality galore.

Infra-red film will help combat haze for the still camera enthusiast, but the moviemaker must resort to panchromatic film and a strong yellow filter, or the haze filter for Kodachrome.

It is understood, of course, that the haze filters for black and white stock cannot be employed with color film, otherwise the results would be disastrous.

What type of continuity can be planned for an air film?

If your city boasts of a large airport, befriend the officials and several pilots, and shoot a day in the life of, say, the Smithville Airport. Open your movie with a closeup angle shot of the airport sign, then panoram slowly down to a long shot of the airport and landing field.

It's early morning. Take a few scenes

You might open your air film with a closeup of several air travel folders, later showing a hand selecting one of the leaflets.



about the buildings, and wind up with a closeup of the weather forecast sheet being tacked on the bulletin board.

Dissolve into a medium shot of the "sock" waving idly in the breeze. Soon there is plenty of activity. A hangar is opened and a plane is wheeled out. Get shots of the tuneup and the final spin of the prop. Show the takeoff, and other planes coming in, and use your telephoto to secure closeups of air-minded bigwigs as they arrive or embark.

Shoot Weather Bureau

If permission is granted, set up your photofloods in the airport office, and shoot the weather bureau in action.

For a fadein, have a pilot, his back



tight against your lens, suddenly walk away towards his plane. Start the camera motor before he moves, and the fadein will be unique.

Long shots may be needed for certain scenes, but it's the closeup that really counts. Show closeups of feet walking over the field or plane wheels spinning in the dust.

Perhaps your most artistically composed scenes will be captured at dusk and later when the airport floodlights will provide unbelievable effects. Finally, capture a spotlighted plane being wheeled back into the hangar for the night, then

panoram up to the dimly illuminated airport sign, letting the camera motor run until after the lights are cut off for the fadeout.

Titles will be few if continuity has been watched. If you're a poor letterer, use a lettering guide to insure perfect alphabets, or employ anagram blocks for spelling out the wording.

If the film is in color, use red or yellow enameled anagrams against a colorful background for good effect. Avoid freak titling, however, for this will only detract attention from the principal footage.

FILM INDUSTRY IN INDIA HOLDS APRIL CONVENTION

BOMBAY, February 21.—American films had familiarized India with the idea of the moving picture much more than twenty-five years ago. But this fact did not detract from the surprise and the pleasure with which the first Indian picture was greeted on its release in 1913. The higher classes were interested in American and British films, but here was something which they could treat more particularly as their own.

To the illiterate millions Indian movies provided the miracle of their ancient gods coming to life and working those wonders, stories of which had been passed from father to son for uncounted generations.

The production of moving pictures soon became an important activity in the three greatest cities in India, Bombay, Calcutta and Madras. It has progressed to such an extent that today it occupies the eighth place among the major industries of the country.

There are in India now nearly 1,500 exhibitors and 75 producing concerns with a total investment of £ 13 millions sterling.

Industry Sees Bright Future

The coming of the talkies six or more years ago gave a further lift to Indian films as the adaptation of sound to the screen got over the great obstacle of illiteracy. The early talkies were rather crude, but technique has become far better now and a number of Indian pictures have been produced which bear favorable comparison with the best made in Europe and America.

There is no doubt the future holds out bright hopes for the Indian film industry. Its leaders have now realized that what they require is organization and a well thought out program of work if they are to realize all their ambitions. They have, accordingly, started a movement for an Indian Motion Picture Congress, the first session of which will



J. H. Booth, general sales manager of Bell & Howell, who will have personal charge of that company's exhibit at the convention of the National Photographic Dealers' Association in Hotel Astor, New York, April 21-24.

take place at Bombay in April this year.

The congress is sponsored by all the film societies in India, namely, the Motion Picture Society of India, Producers and Distributors' Associations, Cine-Technicians' Association, Amateur Cine-Society of India and the Visual Education Society.

The chief aims of the congress will be to secure some sort of recognition to the industry from the Government. Indian banks do not advance money to the film industry. So, finance will be another important subject for discussion. The congress will press for the use of the film for educational purposes. A central organization which can speak with authority on behalf of the industry will be another important subject before the congress. The publicity attending the congress is expected to open people's eyes to the importance of the cinema and lead to the building of more and better picture houses all over the country.

The Motion Picture Congress in Bombay will be supported by an exhibition representing not only all the departments of the film industry itself but also every one of the lines allied to it.

Chandulal J. Shah of the Ranjit Movie-tone is chairman of the Executive Committee of the congress and the two secretaries are Y. A. Fazalbhoy of Fazalbhoy Limited and L. S. Hirleker of the Agfa Photo Company.

Interesting effects are sometimes obtained by framing shots from well inside the airport hangar.



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CAN'T COMBINE JOBS OF DIRECTOR AND CAMERAMAN, SAYS GARMES

ONE man cannot simultaneously with success combine the jobs of cameraman and director, declares Lee Garmes, A.S.C., who speaks as one with experience. And in saying that he suggests concession is made that the man undertaking such a task may have ability to do either of them well.

The cameraman-director, who has just returned to Hollywood after more than four years in England, shows he is in agreement with those directors who in earlier days of the industry discovered to their own satisfaction as well as confirmed their employer's even prior conviction that a director who sustained a characterization in a picture he was making not only was directing an overplayed part so far as he personally was concerned. More importantly, he was guilty of self-interested direction, of partial rather than impartial which amounted to faulty direction.

Garmes' last few years in Hollywood included such photographic successes as "Zoo in Budapest," "An American Tragedy," "Smilin' Through," "I Am Suzanne" and the Academy award winning "Shanghai Express."

Following this he journeyed to New York, where he became a partner in the redoubtable Ben Hecht-Charles McArthur producing combine. In this he served as associate producer, codirector and director of photography, filling in his spare time by aiding in the cutting of such productions as "Crime Without Passion" and "The Scoundrel."

From New York an enticing offer from British Producer Alexander Korda

lured him abroad, where business and matrimonial ties have kept him largely since. In England he further widened the scope of his activities.

In Business for Himself

Not only did he photograph and direct with distinction but he organized his own producing company, Lee Garmes Productions, established a thriving Bond Street portrait and commercial photographic institution, Lee Garmes Hollywood Photography, Ltd., and more recently started two press photo services.

In this he becomes unique among film folk, as one of the extremely rare few to invest his savings in the business of which he has a specialist's knowledge, rather than in such conventionalities as bonds, real estate and the like of which he can have but a layman's understanding.

Returning to active work in Hollywood after so many years, the first thing that impressed him was that the industry's mental attitude was more re-

laxed. "People seem to be feeling easier," he says.

"Four or five years ago we were just getting nicely into the depression, and conditions within the industry were chaotic; as a result, everyone seemed all 'tightened up'—nervously on edge. When I came home, the first thing to impress me was the absence of this tension. It should pay dividends in better production.

"I'm glad to see it, and I hope it increases. After all, we've got a big enough job just turning out motion pictures, without bothering too much about politics or the fifth race at Santa Anita.

Color Next Step

"Another thing that pleases me is the increasing use of color. To my mind color is the next logical step in cinematography, and sooner or later it will have to become the accepted thing for all production, from the super-specials down to the Bs. What's more, I think it will come as soon as a process simple enough and economical enough appears.

"Technicolor dominates the color field today: but none of us can tell what may develop in the future. I'm certain, however, that color will become the accepted medium as inevitably as panchromatic film superseded ortho.

Back in the old two color Technicolor days I photographed several Technicolor productions, and in my studio in England I've been doing a great deal of work with the modern color processes.

"For stills we use Dufay chiefly; with proper processing it gives beautiful results. I've also had some very fine results shooting Agfacolor in my Leica. This film, which is a monopack film on the same order as Kodachrome, is fast, and gives beautiful results.

Dufay 35mm. Film

"I've also shot quite a bit of 35mm. Dufaycolor motion pictures. The English Dufay experts have reduced the size

PHOTOGRAPHIC STUDY—Rough backgrounds are plentiful for photographers at the "Beau Geste" location near Yuma, Ariz. Here is William Walling, with Johnny Engstead (kneeling), making a portrait of (left to right) Ray Milland, Robert Preston and Gary Cooper between scenes of the William A. Wellman-Paramount production. Hot desert sun is aiding in development of unusually bright stills with contrasting shadows difficult to obtain in the studio.



of the reseau, or ruled color screen, until it is not objectionable unless one is sitting very close to the screen. Their color prints are good, too, though like most color processes they still have not approached the consistency of black-and-white.

"Getting a bit away from the strictly technical phases, I'd like to mention a couple of things I've learned during the last few years. First of all, a number of people, knowing I have both photographed and directed pictures, have asked me if I thought it possible that one man could successfully combine both jobs.

One Job at a Time

"Frankly, I don't think so. A man may have the ability to do both well; but if he concentrates, as he must, on seeing that the actors handle their lines and action properly, he can't help overlooking important details of photography and lighting, while if he deals adequately with camerawork, I don't see how he can get the most out of his direction.

"Second—and even more important—too few cinematographers realize just how important the cinematographer is to a production. I know I didn't until these last few years when I found myself on the other side of the table, as director and producer.

"If the cinematographers as a whole realized this there would hardly be any limit to the professional heights to which the craft and its individuals could rise. After all, the whole business is fundamentally one of selling photographs—and only the man at the camera can solidify the producer's investment to tangible, salable form!

"Conditions in England? Well, they're going through what you might call a 'recession' in the British film industry. A few years ago it over expanded. Too many people got into the industry who knew nothing—or next to nothing—about making pictures. That is slowly and painfully correcting itself.

"Aside from that the British industry is fundamentally sound. The studios and equipment are beautiful, and a group of writers, directors, cinematographers and technicians who really know their business exists.

Crews Underpaid

"Some of the British cinematographers are extremely capable. Unfortunately, however, not all of them get either the credit, the salaries or the opportunities they deserve. The operative crews in particular are badly underpaid.

"Such British directors of photography as Fred Young, who does the Anna Neagle pictures; Harry Stradling and Korda's Georges Perinal are fine artists, on a par with any in Hollywood. They command the top positions in England's camera profession.

"One thing especially handicaps production in England: the relatively small size of the industry. Here in Hollywood motion pictures are recognized as the third or fourth largest industry in the

nation. The industry is treated as such, getting full individual and official co-operation everywhere.

"In England this is not the case. I doubt if the film production industry ranks even among the first hundred of Britain's industries. Accordingly, it is treated as a rather poor and unwanted stepchild. You don't realize the difference until you encounter it in the concrete, as I did!

"But technically, England's industry is, on its smaller scale, well equipped. I've been particularly impressed by the DeBrie cameras which, with our own familiar Mitchell, are the universally used types. The lightness and compactness of the DeBrie are unexcelled.

"In addition, the DeBrie feature of being able to follow the action on the film, while the scene is actually being photographed, is a great advantage.

Old Cameras Remade

"This, incidentally, reminds me of an interesting thing I discovered on a visit to the French studios. There is one excellent plant, controlled by Paramount, at Joinville. When Paramount took the studio over, some years ago—I believe it was just as sound came in—the Hollywood studio sent over a lot of equipment. Some of it was outmoded, to American minds. Among this latter class was a batch of old Bell & Howell cameras, displaced here by silenced Mitchells.

"The French mechanics overhauled and quieted these old boxes, and in doing so they added the indispensable Continental feature of viewing the scene through the film as it is being photographed.

"Think of the beauty of it! The accu-

B&H Cuts Bloop from 16mm. Sound Splice

WITH 16mm. sound film coming into ever-increasing educational, industrial and home entertainment use, the technique of film splicing to avoid the "bloop" sound commonly occasioned by square splices becomes of greater and greater importance.

To reduce this "bloop" noise caused when a square splice passes the scanning beam of the sound projector it has been necessary to paint out a section of the sound track on either side of the splice in a diagonal fashion.

Research, however, has revealed that a similar "bloop" eliminating effect is obtained when the splice itself is made diagonally, as it is made with a Bell & Howell film splicer.

When a diagonal splice passes the scanning beam the width of the sound track becomes narrower and narrower, gradually decreasing the sound coming from this portion of the track. Meanwhile the sound from the track in the subsequent scene increases. The resultant combination gives somewhat the same effect in sound as a very rapid wipe in the picture.

racy of the Bell & Howell movement, coupled with this feature which eliminates swinging the lens turret or racking-over the camera for lining up, and which enables one to follow focus through the lens during the scene, eliminating finder inaccuracies and guesswork.

"I tried to buy one of those rebuilt cameras for myself. But the studio wouldn't part with it, though the plant was inactive at the time. Some day they'd be busier—and then they'd need that camera! I'd like to see such a feature on American cameras.

Wants More Compact Unit

"Another thing I'd like to have is a really practical 'zoom' lens. Not necessarily a lens such as those available today, which in one lens gave an extremely wide range of focal divergences—say from a 24 mm. to a six inch.

"Instead, a smaller, more compact unit which would give only a moderate range, covering the same range of angles with perhaps four separate lenses—one, for instance, with a range from 24mm. to 35mm.; a second covering the range between 35mm. and 50mm.; a third ranging from 50mm. to four inch; and the last, if necessary, from that to a maximum of six-inch focus.

"With this more limited range, the designers' problems would be easier: the lens could be made faster and more compact. It could be used far more. In fact, I would be inclined to use such a lens—if one were available—almost exclusively. Modern production technique calls for an incredible amount of 'dolly-ing', especially moving the camera relatively short distances.

"As everyone knows, it is exceedingly difficult to light a set properly and yet make provisions for such camera movement. A moderate range 'zoom' lens would be a tremendous advantage in solving these daily problems.

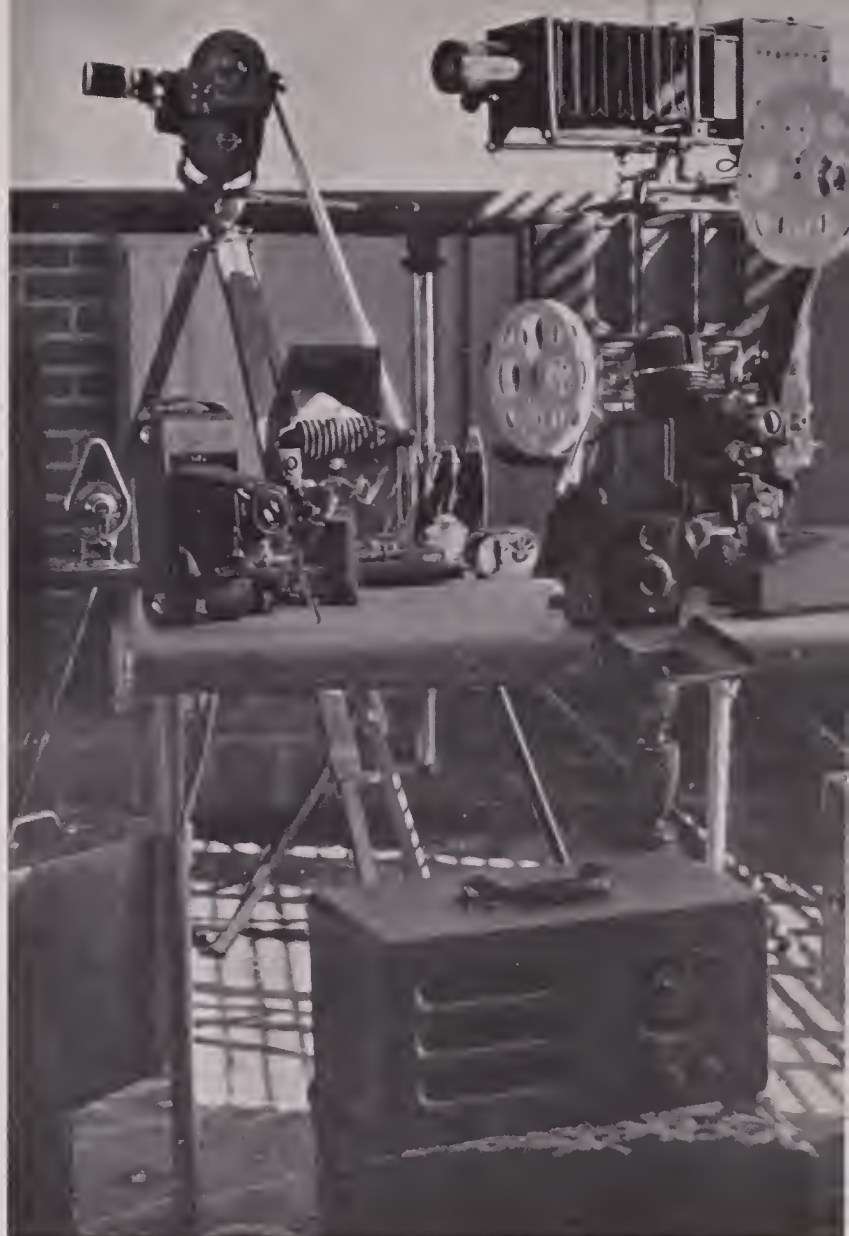
"Finally, I'm more than happy to be back in California again. England is a delightful place in which to live—especially on the not too frequent occasions when the sun fights through the rain clouds—but once a man has got the California germ in his system there's no cure but a return to California! I've found it even more delightful than the mental pictures my memory had built up during the cold, rainy days in New York and London!

"Another thing I've missed while away is the unique fellowship of the A.S.C. There is no other organization quite like it. I've missed the technical interchange and the personal fellowship engendered at the society's monthly meetings, and I'm glad to get back where I can be a part of it again.

"Until you get clear away from Hollywood, to places where, as in England, the industry is small, you can't fully appreciate how much these informal gatherings of cinematographers have done to advance the interests of the profession."

THE PARKERS WITH CAMERAS SAIL AROUND SOUTH AMERICA

By GEORGE BLAISDELL



THE Harry and Harriette Parkers of Los Angeles have completed a 19,000-mile trip that for novelty and opportunities for the photographic minded rates something out of the ordinary. Four months to a day were devoted to a journey that started at Los Angeles harbor October 10 and landed them back at the same pier February 10.

The trip was made in a Norwegian freighter that sailed from Vancouver and to that place returned. When Harry Parker made inquiry as to the ship's ports of call he was assured there could be a guarantee of eight at least. But also he was informed that as the vessel was subject to "flagging" by radio as it proceeded on its course very likely there would be more stops than guaranteed.

The actual result was four times the number. Thirty-two calls were made following the ship's departure from Los Angeles up to its return to the same port. The course was along the coast of Mexico and Central America to Panama; down the west coast of South America, touching at ports of Colombia, Ecuador, Peru and Chile.

Then there came the sequence of a journey through the Straits of Magellan, one to be remembered for its thrills of battered wrecks; remembered not only by the two travelers but also by those fortunate enough to witness the screen-

ing of 1600 feet of pictures exposed in 16 mm. Kodachrome and to follow the display of some of those thrills in Dufay and shown by a Bausch and Lomb lantern projector.

Have Wide Ties

From the Straits the trip was continued along the east coast of South America, through the canal and back to Los Angeles.

The Parkers are seasoned travelers. It is quite likely their experiences in getting ready for these journeys may appeal to those preparing to accumulate

Illustrating mass of photo equipment permissible to tourists traveling via freighter and returning home without encountering change of quarters. Practically all of the Parkers' photographic equipment described in this story, with the exception of the 72-inch Da-Lite screen, were taken along. In the picture also are four hardwood boxes devoted to protection of the many Dufay 3 1/4 by 4-inch slides exposed on the trip. The unipod rests on the tripod.

parallel backgrounds. Harry Parker is a member of the Los Angeles Cinema Club and approximately a couple of dozen other city organizations. Mrs. Parker is a past officer of the Hollywood Woman's Club and is a member of other civic, social and cultural bodies.

On four preceding occasions when the Parkers were seized by an attack of wanderlust they made world tours. But last fall, however, they succumbed for the second time to the lure of the freighter, as they had been impressed by the tales of such life by friends who had tried it—and fallen hard for it.

They decided they would select their own time of year, gaining the advantage of a summer when their home was under such disadvantages, of course if any, as a Los Angeles home suffers in winter. They looked forward to the charm of sunshiny tropical waters, of the informality of life on a freighter, of the

Harriette and Harry Parker.





freedom on shipboard to go where fancy dictated and to be welcomed and not roped off, even in the pilot house; ashore to visit places off the beaten paths, spots which were ignored by railway connections.

They had been assured of the restfulness of the life. In pursuit of that thought they had secured the owner's quarters, a suite of two rooms, with no berths to climb into. Knowing their belongings were to be "set" for four months they had brought along a hundred books, apportioned according to the reading tastes of the two.

Photo Equipment

Among the books were three that covered about everything in the way of general information—Freeman's "Discovery of South America," Foster's "If You Go to South America," and "South American Handbook, 1938."

The photographic equipment consisted of a 16 mm. Bell and Howell Filmo 2.7 lens and a 3¼ Taylor-Hobson Cooke lens; Thalhammer tripod of latest style; an extension unipod; Craig Projecto Editor, which quickly became a particular pet of Mrs. Parker, who by the way takes care of the editing and the projection, leaving Mr. Parker free to do the commenting; B & H Filmo model 129C projector; a Weston meter; a 2 by 2 Rolleicord, which on a former

Left, primitive wood-burning engine in Venezuela. Center, sporting club in Valparaiso, before the throng gathers. Right, child in infant's basket in ship's swimming pool—not in mid-ocean, as appearances might indicate.

tour was purchased in Darjeeling, India, and an Ansco camera which has accompanied the Parkers on their four world trips.

On this Ansco camera's 3¼ by 4 inch film 176 slides in Dufaycolor were made during the course of the trip, which were shown on a Bausch and Lomb projector. The screen is a Da-Lite 72-inch model. Carried along, too, was an extra assortment of cords for plugging in when necessary.

Two radios were packed. One of these was a novelty—a Mission Bell with doorbell batteries, but restricted generally in its range to not more than 150 miles from the source. It is approximately 8 by 10 by 18 inches in size, with a gen-

erous handle for carrying. Its bearer would not have to tote it into a gathering of savages to be given credit for being something of a magician as the little radio performs its usual functions without visible means of support or connection.

Another radio, an RCA-Victor short wave, when in the Straits of Magellan without difficulty brought in New York. The model is equipped with AC and DC current. It may be remarked here that the Parkers always take along a conformer in case it should be necessary in an emergency.

Hitler Controls Air

Prominently displayed in the Parker suite on shipboard was an American flag, one that had been brought by its owners from their home, to add to the atmosphere of their surroundings. Somehow it was quite a bit in their attention when they discovered in South American waters that for twenty-four hours a day Germany was broadcasting by means of the most powerful equipment. Italy was broadcasting world news even in Chinese.

The preliminary steps had been somewhat extensive. There was a list of various clubs of which the two travelers were members. There were letters from the executive of these clubs identifying the pair. There were vaccination certificates, police clearance papers showing

Left, ship entering Straits of Magellan, conforming to shivery custom of signaling station on shore its identity, so that parallel record may be made on ship's emergence from Straits that passage has been safely accomplished. Center and right, mountains in Straits covered with perpetual snow.





over the signature of the chief of police the parties were unknown to him in his official capacity.

From business friends were letters of introduction to South Americans. Among these were messages from the San Francisco consul of the Argentine. There was convincing certification that neither had at any time been subject to trachoma. For the benefit of consuls in different countries sixteen pictures of each were taken.

Earthquakes? No

On one occasion in India, when a stay longer than anticipated had been made, it became necessary to replenish funds. Instead of undergoing a delay of several days letters from home authorities were entirely satisfactory to an Indian bank and a check was accepted on the spot. Since that time letters of identification have been a part of the impedimenta.

The Parkers were fortunate in ducking the earthquakes. They reached Chile at least a matter of eight weeks prior to the tragic shake in that country. In Salvador they left shore on their return to their ship at 12:20. Twenty minutes behind them there was a real shake.

Kodachrome movies and Dufay slides tell the story of the trip through Magellan. In the background always is the perpetual snow on the mountains.

If a ship is 500 feet in length it is necessary to go around the Horn. The tide sometimes falls thirty-eight feet. The average ship anchors at nightfall rather than hazard the passage.

The fogs are one of the worst of the mariner's worries. Rainfall is usual five hours a day. And as intimated earlier there are shipwrecks aplenty. Names of the islands and capes, etc., are terrifying in themselves—Starvation Point, Desolation and Hunger islands are fair examples.

While the Parkers brought home quite an array of pictures of Indians, as a rule they discovered the natives still are antagonistic to a camera—in their superstition they believe the camera will rob them of something they possess.

Left, Second Christian Science Church, Buenos Aires. Center, office of coffee plantation on cloudy day. Right, bicycle police with white cloth on head and arms so they may be distinguished at night.

Instead of mailing home post cards the two travelers followed their novel rule of sending newspapers instead. On their return they learned the personals had aroused quite a bit of attention.

The travelers were disappointed in their attempt to reach Cerro de Pasco, a town of 18,000 population situated 15,000 feet above sea level in Peru. At Rio Blanca, just short of the end of the railway, the only one in the world by the way in which is carried oxygen for the passengers, they learned they would have to return in order to get down to sea level before dark.

Keep Journal

At Rio Blanca, however, they exposed a lot of negative, but were forced to work fast and minus the aid of a tripod. As Mr. Parker pointed out, "a lot can happen before you can get a camera lined up for a shot." They learned, among other things, that In-

Mrs. Parker stands guard over twenty-four pieces of family baggage, original and accumulated on trip, pending its release by inspectors.



dians acclimated to these great altitudes are overcome by atmospheric conditions when they get down near sea level.

While on tour the Parkers make it a point to keep a journal of as many as 500 words a day. On their return the matter is typewritten and bound into a book. The plan has worked out well, particularly in leaving nothing to a memory that may be mistaken.

In exercising one of their letters of introduction the Parkers were entertained in the sampling room of the Tomba Bodega, vineyards in the vicinity of which cover an area of 50 by 100 miles. The Tomba winery alone ships out each and every day in the year eleven freight carloads of wine. Sixty percent of it goes to the Argentine, none to the United States.

Instead of coming home from their journeys with their baggage smeared with stickers from various and sundry hotels the Parkers make it a point carefully to file them away and on their return paste them into a scrapbook which results in a mighty interesting souvenir.

Asked what was his observation as to the subject in which the average tourist displayed the most interest Mr. Parker replied that many of them clung closely to churches and similar institutions. He remarked that the more he traveled the more he became industry-minded.

He spoke of the great coffee plantations he had visited on his recent tour, of the wineries and also of the snake farm in Sao Paulo. Of this latter institution it may be said he brought back some rarely interesting closeups in Kodachrome, in which poisonous snakes are shown striking at the legs of a man in among them. It was explained, however, the seeming suicide wore under his trousers exceedingly high and stout boots.

The Parkers find it has grown to be a habit with them to make a trip every other year. Next year is the year, when they plan to make a trip "Down Under," to the South Seas and to Australia.



DAYLIGHT QUALITY

Illumination of daylight quality has advantages in the studio as well as in the theater. It is necessary for Technicolor and, with silent lamps of improved optical characteristics now available, there is growing recognition of the photographic advantages of cool, snow white, carbon arc lighting for monochromatic productions.

NATIONAL CARBON COMPANY, INC.

Why

DO YOU CARRY A NEW SUIT TO THE WINDOW?

It is because you can see it better, of course. In the stronger light you can see more clearly the details of pattern and construction. In daylight you see its true color.

This simple illustration explains the favorable reaction of patrons to High Intensity projection, now found in more than one third of the theaters in this country. This stronger, snow white light enables patrons to see all pictures more clearly

and color features in more accurate hues than is possible with low intensity projection.

Simplified High Intensity projection gives two to three times as much light on the projection screen as low intensity. Yet it costs so little more that one extra admission per show will pay the difference. Ask your dealer's salesman to show you the book. "Yes But What Will It Cost?"

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GOOSENECK BLIMP LAMP REAL TROUBLE CHASER

By Clyde De Vinna, A.S.C.

MINOR inconveniences—if they recur often enough—can sometimes prove at least as troublesome as really serious flaws. An excellent example of this is found in the lack of illumination inside most camera blimps. Every time the camera has to be reloaded, the movement inspected, lenses changed or their settings checked, the assistant cameraman has occasion

to complain about the dark interiors of blimps.

Though for years a flashlight has been regarded as a standard part of camera equipment, flashlights are none too convenient to use at such times. They are a separate piece of equipment, easily mislaid or borrowed. Batteries have an embarrassing habit of growing weak at the wrong time.

SURE ADVANCE COMING IN SOUND...STEVENSON

MAJOR advances in methods and apparatus greatly to improve the quality of both sound recording in studios and reproduction in theatres will occur during the next two years, according to T. K. Stevenson, president of Electrical Research Products, Inc. who made a week's visit to the coast recently.

Many new improvements materially to raise the quality of sound are in final stages of development in the research department of Bell Laboratories, Stevenson stated, and will be made available to Erpi studio licensees and theaters as quickly as possible.

Erpi president could not hazard an opinion as to what new improvement would be the first to emerge from the laboratories. The company, he pointed out, through its new headquarters in Hollywood, which contains an extensive research laboratory for cooperation directly with studio sound departments, is continually striving to raise the quality of sound for both production and exhibition. This supplements base research of the Bell Laboratories.

Stevenson, who recently made a trip to London and Paris to survey business conditions abroad, stated that theaters throughout the world were quickly modernizing their sound projection apparatus, and practically all of the new installations were American made equipment. He stated that Erpi business abroad in the first two months of this year was 25 percent ahead of 1938. The trend to modernizing sound equipment

was particularly noticeable in South America and Australia, he stated.

The public is becoming more conscious of quality of sound in motion pictures. Stevenson commented, through education secured in higher quality reception of radio programs, particularly the fine broadcasts of symphony concerts and food music.

It's really a public education in sound quality, with producers and exhibitors maintaining high standards materially adding to their pictures' effectiveness with audiences as a result.

And in some instances these routine operations can be performed quicker and better if a man doesn't have to devote one hand to holding a flashlight.

My crew has had its full share of these minor irritations. So we have evolved a simple added refinement for our blimp, which eliminates the trouble.

It is simply a flexibly mounted lamp to illuminate these and similar tasks. The lamp, like many home and office lamps, is mounted on a long "goose-neck" flexible tube. One end of the tube is suitably attached to the top of the blimp. The other end carries a small globe and reflector. A light cable connects it to any convenient power outlet on the stage.

In use, the lamp can be swung down around the opened door of the blimp, as shown in the illustration, to give the assistant plenty of illumination for reloading the camera, or checking the movement. In the same way it can be swung forward, to light things up when he is changing lenses.

At other times it can be used to give the assistant a good, clear view of the focusing calibrations in making follow-focus scenes or dolly shots. And after the scene is completed, the same lamp helps him see to make out his camera reports and the like.

Since the device is built right on to the blimp, it is always ready for use and is especially handy when the camera is crowded into tight corners in small sets, where it would be difficult to provide adequate illumination.

None of us would claim that this is a radical or epoch-making invention—but it is practical, and in our case at least, has proved to eliminate one of the most common if minor inconveniences of modern camera operation.



Clyde De Vinna, A.S.C. (Right), and his assistant, Frank Baldwin, discuss the usefulness of the gooseneck lamp mounted atop the blimp. Still by Virgil Apper.

RANDOLPH CLARDY MAKES FIRST 8mm. TALKER

DEFINITELY the sensation of the March meeting of the Los Angeles 8mm. Club was the premiere presentation of the first all-talking 8mm. picture. Since the 8mm. fraternity has for some years been casting envious eyes upon the sixteen millimeterists' potential ability to make sound films with commercially available equipment, this first 8mm. talkie was greeted by a truly remarkable ovation.

The film and the methods used in its production are the work of Randolph B. Clardy, one of the few two-time Grand Prize winners in the American Cinematographer's International Amateur Movie Contests, and winner of the Photography Award in the 1938 event. The stars of his 100 foot all-talking production were Club President Alexander Leitch and Mrs. Leitch, supported by the Clardys, husband and wife.

This first "8" talker is the result of nearly a year's experimentation by Clardy, during which time he tried and discarded a considerable number of ideas for recording sound and for coupling the recorded sound with his pictured action.

Slow Film Motion Problem

The first and most serious problem encountered was that of the relatively low speed at which 8mm. film passes through camera and projector. Even at 24-frame speed, 8mm. film travels at only 18 feet a minute, while at the normal 16-frame speed (all that was available on Clardy's Eastman Cine-8) the travel is only 12 feet a minute.

His own experiments confirmed the findings of the various manufacturers of 16mm. sound equipment: that for recording or reproducing sound of even minimum quality on film, a lineal speed of not less than 33 feet a minute is imperative.

By Wm. Stull, A.S.C.

For rather obvious reasons, Clardy also decided that for his purposes, at least, photographic sound recording was out of the question. Galvanometers for recording and photocells for reproduction are expensive; it would be difficult to fit them properly to the small 8mm. equipment; and moreover the problem of securing acceptably smooth film motion in the limited space available would be very nearly impossible on any practical scale.

Therefore Clardy decided that his sound record must be cut or embossed, phonograph-wise. Here again the extremely low lineal speed of 8mm. film movement threatened to checkmate him. He clearly could not cut a sound-groove on his 8mm. picture-film, granting even that it might be possible to install a cutting head within the camera.

The next experiment was with a needle-cut sound record on a separate film, moving synchronously at a higher speed. This, too, was tried and found wanting. Even using 16mm. film, moved at approximately 36 feet a minute (24 frames a second), the quality of the recorded sound was none too satisfactory.

Uses Vitaphone Disk Record Principle

Therefore Clardy had recourse to the same principle followed in the early Vitaphone talkies—synchronized recording on disk type phonograph records. For this he purchased a standard disk type recorder, using the inexpensive "transcription" type of acetate disks which eliminate the soft waxes used professionally, with their cumbersome and costly electroplating and stamping

operations. These disks may be played back immediately after recording, and with proper care will endure many hundred playings.

Here, he points out, the amateur soundman has his choice between two recording speeds. Standard commercial phonograph disks are recorded at 78 revolutions a minute, while Vitaphone disks, radio transcriptions, and the like are customarily recorded at 33 1/3 r.p.m.

Ten or a dozen years ago even the best professional recordings made at the latter, slower speed lacked the intelligibility and brilliance given by the greater proportion of high sound frequencies recordable by the higher record-speed.

But with today's high fidelity amplifying equipment this distinction has been virtually eliminated and the slower speed of the transcription type recording more than doubles the playing time of any given disk.

For this reason Clardy standardized on 33 1/3 r.p.m. recording. Without spacing his record grooves unreasonably close together he has found it practical to record the sound or dialog for a complete 200-foot reel on a standard 12-inch disk.

Coupling Camera and Recorder

With these details decided, the next problem was that of coupling camera and recorder for taking the picture, and projector and reproducer for showing the picture, so that sound and picture would stay in synchronism.

Professionally, this is done by using interlocking electric motors, so interlocked electrically that they invariably operate "in step." For home talkie purposes this would obviously be inadvisable, so Clardy evolved a simple yet positive mechanical linkage.

After investigating the mechanical vitals of his camera, he found it possible to extend one of the main driving shafts of the mechanism to the outside of the case, on the right-hand side of the camera. To this shaft he couples a simple, home built gear box which in turn is coupled to a short flexible shaft leading to the turntable shaft of his recorder.

The gearing is such that with the recorder turntable operating at 33 1/3 r.p.m. and the camera at 16 frames a second the two can be synchronized through the flexible shaft connection.

Clardy's camera was already equipped with a wind-back clutch for use in making dissolves and double exposures—a device which Clardy pioneered in 8mm. over four years ago. This makes it possible to disengage the camera spring motor and to make talkie scenes of any length.

Making the Talkie

In practice, sound and picture are recorded simultaneously. Due to the flexible coupling between the camera and recorder, a limited amount of pan-

(Continued on Page 189)

WIDE ACCLAIM FOR ALL THREE

SETTING new standards of quality and performance, Eastman's latest negative films have met with instant approval. Each makes its special contribution . . . fast, fine-grained *Plus-X*, for general studio work . . . high-speed *Super-XX*, for all difficult exposures . . . ultra-fine-grained *Background-X*, for backgrounds and all-round exterior work. All three offer the high reliability and photographic quality typical of Eastman sensitized materials. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN *Plus-X* . . .
Super-XX* . . . *Background-X

ONE B&H MODEL REPLACES THREE 16MM. PROJECTORS

MARCH 1 Bell & Howell replaced three former 16mm. projector models with one machine which is asserted to be the finest moderately priced 16mm. projector ever offered by that company.

The new projector, called the "Filmaster," is entirely gear driven. It has no belts or chains inside or out. The gears, enclosed by rigid aluminum-alloy die castings, are said to be exceptionally silent. It is stated that this is the first 16mm. projector having such specifications ever to appear in the low-priced market.

Additional specifications of the new Filmaster gear-driven projector indicate versatility in every conceivable home-movie use. Shift a lever and the gear system rewinds the film quickly and quietly. Either 300, 400, 500 or 750 watt line voltage lamp may be used for almost any required degree of screen illumination.

The furnished lens—a 2-inch F1.6, same as supplied with higher priced B&H machines—is instantly interchangeable with eight different focal length lenses. Standard lens and lamp illumination is increased 32 percent by a Magnilite condenser. A lamp switch permits turning the lamp off during film rewinding.

Located where most needed, a no-

glare pilot light illuminates the Filmaster projector mechanism when required. A thumb-screw tilts projector either up or down. The film is run backward simply by throwing a lever.

By disengaging the clutch any single film frame may be projected as a still picture, projected from heat by an automatic safety shutter. Reels furnished are 400-foot 16mm. film capacity.

The projector is beautifully finished in dark brown, crinkle-baked enamel. Fittings are of brown bakelite and polished nickel plate. A drop-front, compartmented carrying case is regularly furnished. Like all Bell & Howell projectors, the Filmaster is approved by underwriters' laboratories and covered by the B&H lifetime guarantee against defects in materials or workmanship.

Universal Makes Good Use of Portable Sound Stages

Portable sound stages have been introduced to the film industry by Henry MacRae, producing Universal's outdoor drama, "Oregon Trail."

Working on location at Kernville, a couple of hundred miles from Hollywood, MacRae devised a miniature sound stage for use in filming interiors of covered wagons, stage coaches and pioneer cabins



Brownie Special Six 20 is equipped either for snapshots or time exposures, and for moderate closeups as well as more distant views.

when bad weather or lack of sun made outdoor photography impossible.

"This portable stage is an experiment," said MacRae, who has devised many innovations during his twenty-five years as a screen director and producer. "By using regular studio equipment, we are getting excellent results and saving a lot of time."

Spencer Issues 100-Watt Projector for 2 by 2 Slides

The Spencer Lens Company of Buffalo, manufacturer of microscopes and scientific optical instruments, has announced another new projector for 2 by 2 inch slides. It follows shortly after the announcement of its 750-watt auditorium projector, Model GK.

The new instrument will be known as Model MK Delineascope, and the basic unit will be priced at \$22.50. The manufacturers claim this 100-watt projector is far more efficient than would be expected from its size and price; that it remains cool enough to handle at all times, and assures safety for color films.

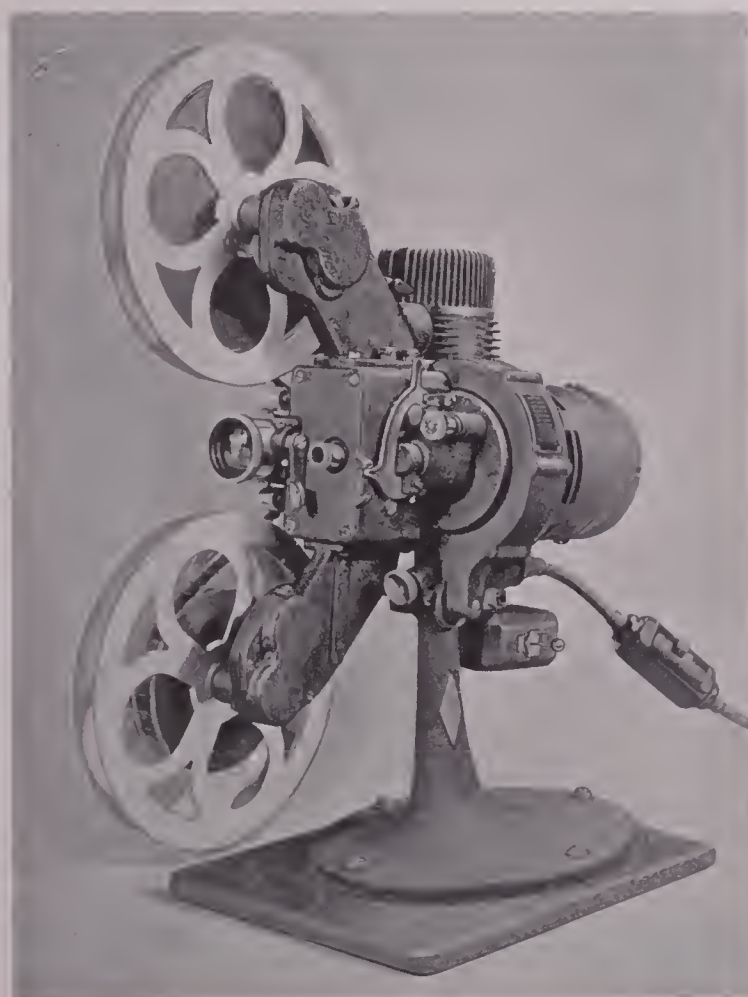
The projection lens is 5 inch focal length and has a speed of F 3.6.

Eastman Sets Prices on Super-XX Negative Stock

Safety Super-XX Panchromatic Negative Cine-Kodak film is now available in 100-foot and 200-foot rolls for daylight loading, and 400-foot rolls for darkroom loading, the Kodak Company announces.

Notable for its extreme speed, Safety Super-XX Panchromatic Negative Cine-Kodak film is not processed by Kodak. It is not intended for reversal processing, but for development to a negative from which any number of positive prints may be made.

Prices are as follows: 100-foot rolls, daylight loading, \$3.50; 200-foot rolls, daylight loading, \$7; 400-foot rolls, darkroom loading, \$14.



*Bell & Howell
Filmaster
16mm. projector
replacing
three former
models of
that company.*

'JUAREZ' DECLARED REALLY GREAT PICTURE

AS this magazine is preparing to put its forms on the presses Warner Brothers executives seriously are discussing the feasibility of issuing "Juarez" as a two-part feature rather than cutting it below fifteen or sixteen thousand feet in length or taking the chance of letting it go out at that great footage.

Other producers have been faced with parallel problems, but in practically all instances have compromised by sending out the film in question as a road show or its equivalent at the natural length and then for general distribution have slashed it to the footage best suited for the exhibitor.

The discussion simply means that the executives at Warners are satisfied that in "Juarez" the company possesses a great property. In a chat with Tony Gaudio, A.S.C., a few days before folding up time at this desk the veteran photographer very frankly, very enthusiastically, expressed his conviction there was no doubt about the greatness of the picture.

As he had directed the photography on "Juarez" he was in something of a position to know whereof he spoke. In addition to that background he had seen it projected in sixteen reels. "And believe me, it is tight," he declared. "It grips you like that!"

The stars of the picture are Paul Muni in the title part and Bette Davis as Carlotta, the archduchess of Maximilian. The leads include many of the screen's foremost players—Claude Rains, Donald Crisp, Robert Warwick, Montagu Love, Alexander Leftwich, Holmes Herbert, Frank Mayo, Gale Sondergaard, Brian Aherne in the tragic part of Maximilian, John Garfield, Joseph Calleia, John Miljan, Pedro De Cordoba, Charles Middleton and Gilbert Roland.

The picture was thirteen weeks in the making—before the camera. But that is a small part of the time devoted to creating those sixteen reels of action that now have Warner men worried.

Between September 30, 1937, when Warner Brothers first announced intention to film this significant document of human liberty co-starring Paul Muni and Bette Davis, and February 23, 1939, when the cameras ceased turning, many salient things took place, things that upset a dozen precedents in motion picture production, established a dozen others.

Here was to be a historical drama that would adhere to historical fact. It does. Here was to be a true portraiture of many characters, great and small, opposed and involved in one of the world's most reprehensible international plots.

Those characters are presented as faithfully as was humanly possible. Screen star ego and screen star importance were to be held subordinate to story.

This was done. Neither time nor

EARLY CLOSING

ADVERTISERS and correspondents are requested to furnish their copy not later than April 10 for the May issue.

Due to the Convention in New York, April 24-27, of the National Photographic Dealers' Association, in which convention and trade exhibit this magazine is represented, it is planned to close forms earlier than usual. Co-operation will be appreciated.

money was to be considered in research, story construction, casting, set building, wardrobe assembly or production. At the same time there was to be no waste of either asset. That canon was followed as the record shows.

Third Biography

When, in the fall of 1937, Jack L. Warner and Hal Wallis, his executive assistant, decided that "Juarez" should follow Muni's "Pasteur" and "Zola" as the third of a series of biographical dramas, the assignment immediately was given to Producer Henry Blanke, young, enthusiastic, astute, the man behind both previous Muni hits.

Blanke called in Director William Dieterle. They, in turn, called in Aeneas MacKenzie, studious-minded author, then with the studio reading department.

Working on carte blanche order, Doctor Herman Lissauer, professorial head of the studio research department, in the meantime, had started to assemble as complete a bibliography as possible on Mexico's great liberal President, Benito Pablo Juarez, and on the abortive reign of Maximilian and Carlotta.

Literary agents in Europe, Mexico and South America were contacted by radio, telephone and cable. Within a month Lissauer turned over to Blanke, Muni, Dieterle and MacKenzie 372 books, documents, pieces of correspondence and albums of rare and authentic photographs.

MacKenzie, with Screen Playwrights Wolfgang Reinhardt (son of Max) and John Huston (son of Walter) went to work on the script. Later Dialogue Expert Abem Finkel was to contribute his talents. But not until later in the story.

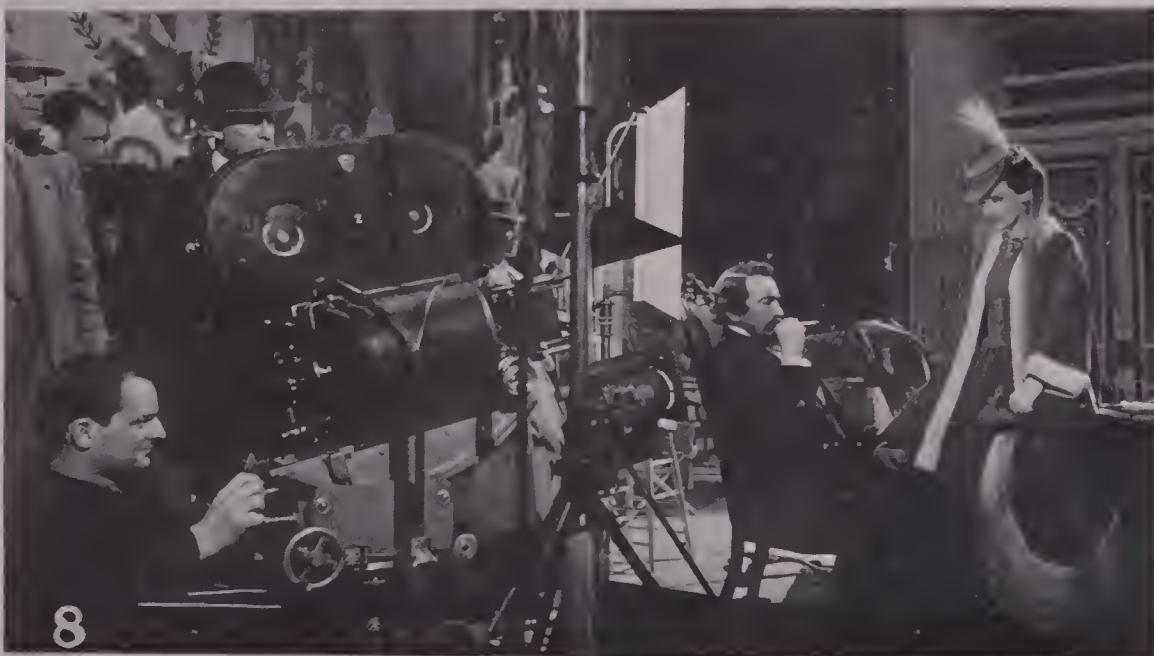
Six Week Tour

Twelve months after first research was started the fourth draft of the script was completed and, in September, 1938, the go signal was given all studio departments, with \$1,750,000 among them to invest.

In the meantime Hal Wallis, Blanke, Muni and Dieterle had made a six-week tour of Mexico, visiting every place a new fact on Benito Juarez and his record of accomplishments could be learned. In that way, unique in Hollywood, they seeped themselves in not only the history of a man but the atmosphere of a country.

While they were making their trip these things were taking place in the studio. Art Director Anton Grot and his aid, Leo Kuder, were drawing 3643 sketches of sets and set details. From these the construction department was making 7360 scale blueprints for the exteriors and interiors of three castles; Miramon on the Adriatic, the Tuileries and Chapultepec; for the embarcadero at Vera Cruz; for a Mexican village to cover ten acres of the Warner ranch at Calabasas, and for forty-eight other key sets used in the production.

L. L. Burns, head of the wardrobe



1. Art Director Anton Grot (on the right) and his assistant, Leo Kuter, at work on a small scale model of one of the huge sets for Warner Brothers' "Juarez," in which leads are sustained by Paul Muni and Bette Davis.

2. With the miniature for guidance, as well as sketches and blueprints prepared by the art department, we see these brought to life in this scene showing the arrival of Paul Muni as Juarez. The building in the foreground at the left is the one plotted in No. 1 at the lower left center. In the background is the cathedral, with the trees also in evidence.

3. In the centre extreme right of No. 1 is shown the local laundry, with the trees and cathedral near by. On the centre left we find the building with the balcony indicated opposite the cathedral in No. 1, while the hill is behind.

4. A still camera and a motion picture cam-



era are lined up side by side as William Dieterle, with elbow on hood covering film magazines, directs the scene. Second from the left is Tony Gaudio, veteran director of photography. It is quite evident the sun, although brilliant, is not overwarm.

5. Donald Crisp, as marshal of France, commander of a hundred thousand men, one of the leading characters in the picture.

6. Paul Muni as Juarez.

7. Juarez at the altar.

8. Bette Davis as Carlotta, archduchess of Maximilian, confronts Claude Rains as traitorous Napoleon III. Tony Gaudio, cameraman, stands at extreme left. Carl Guthrie, operative cameraman, at lower left, is seated behind camera.

9. Gilbert Roland as Colonel and Aide de Camp Lopez stands at attention before Bette Davis as Carlotta, Mickey Kuhn as the adopted son and Brian Aherne as Maximilian.

department, and Orry-Kelly, studio style creator, were at their respective tasks; Burns to supervise the outfitting of two entire armies, three courts, the people of twelve Mexican villages and cities; Orry-Kelly to design eighteen of the most magnificent gowns ever worn by Bette Davis for her role as the exotic Empress Carlotta.

Fortune in Jewels

Miss Davis' jewels alone were valued at a quarter of a million dollars; not purchased by the studio, but rented from the great jewel houses in Paris, New York and Mexico City.

Fifty-four principal speaking parts had to be cast, each to an actor or actress with a box office name and one who closely resembled the actual character to be played. Director Dieterle made more than 100 camera tests for wardrobe, make-up and type in selecting players for his cast.

More than 5000 extras and supporting players were interviewed in all, more than 3,500 used, all during the 80 days of actual production.

Because Maximilian and Carlotta never met Benito Juarez in history, neither do Aherne and Bette Davis meet Muni during the picture. The production started with Aherne's scenes on October 29, 1938. He finished December 27. Bette Davis started her role as Carlotta December 20, 1938, and finished January 8, 1939.

Muni started a day later, finished February 6. The picture itself closed February 13th, with the final ten days of battle montage between French and Mexican soldiers.

3000 Bars of Music

Original score is by Eric Wolfgang Korngold, two-time Academy winner, who feels it is his finest musical accomplishment. He wrote approximately 3,000 bars of music, more than in the opera "La Boheme."

Set dresser George Hopkins assembled more than 10,000 items of furniture, furnishings and draperies; most unusual among them was a genuine Winterhalter portrait of Napoleon, painted in 1865, located by Hopkins with a private owner in San Diego.

Property department and prop man Pat Patterson, assigned to the production, kept no record of the thousands of items they had to gather, hesitated even to estimate. Most difficult property to secure: three dozen roasting ears of fresh Indian corn in mid-December.

Technical direction was under Ernesto Romero, vice consul of Mexico on reserve leave. Total cost of Brian Aherne's elaborate flowing whiskers, magnificently-coiffed hair as Maximilian, \$567. Muni's make-up, although very simple, took eight weeks to develop by Perc Westmore and his laboratory technicians.

Bette Davis cut off her own hair to a length of three inches better to wear

the jet black, severely center-parted wig she wears as Carlotta. In spite of the huge cast, delays through illness, none; delays by weather, none; replacements in parts, none; retakes, one—a retake necessary by mechanical failure in a camera that could not have been anticipated.

The picture was the first major subject in Hollywood to be photographed on the new Eastman Plus X Panchromatic film. Not an inch of any other brand was used in the production, declares Tony Gaudio. And this is true in spite of the fact that at the beginning of production the camera department was right on the heels of the supply department.

Gaudio Enthusiastic

Gaudio is enthusiastic in his reports of experiences in handling the film. "The Eastman company is responsible for many improvements in photography," he said, "but I am convinced this stock is not only a distinct advance. It is the best thing Eastman has done for the motion picture industry as a whole."

In his work he had retained the same balance between highlights, half tones and shadows as he had formerly with film that preceded Plus X. He said his level of illumination was reduced by exactly 50 percent.

Hollywoodland Studios Is Sponsoring House Organ

Hollywoodland Studios, South Gate, Calif., amateur movie and still camera accessory mail order house, announces the introduction of a monthly house organ, temporarily called Amateur Movie Chatter. It is being mailed to

This saving in lighting, he declared, had worked out to the benefit of the camera department as well as to the producers. The actors were happy, too, in that when made up in the morning the make-up stayed. There was no occasion periodically to hold up things by taking time out to renew make-up. This was due, of course, to the change in temperature by reason of the lessened heat and the absence of customary perspiration.

The new stock caused no change in the color of sets or of gowns, the cameraman went on. As to the question of some cameramen as to the use of the new stock on exteriors, believing possibly it might prove too fast, Gaudio insisted it is just as adaptable on exteriors as in interiors. He said the truth of his statement might be judged in "Juarez," where it was used in exteriors as in interiors.

"It is smoother, finer in grain and in speed," the cameraman said in conclusion. "Yes, I am using Plus X in 'The Old Maid,' the picture I am now on, another Bette Davis subject, and I expect to be using it as long as I am in pictures. No, I don't think there ever will be anything really better."

Asked as to what results he had met on the screen the veteran smiled. "Don't ask me," he said. "See it for yourself."

current customers and the trade in general.

"The purpose of this publication," asserted Ben Doty, owner of Hollywoodland Studios, "is to give amateur moviemakers additional help and information concerning their hobby through which they can produce more and better home movies. Features of the new organ are "Questions and Answers," concerning problems of amateurs; a "For Sale or Trade" column, open to the use of its readers; "What's New" column, carrying a brief description of the new developments in equipment, and many other important phases of amateur movie production.

The first issue of Amateur Movie Chatter introduces a novel contest, offering movie film as prizes for a permanent name for the publication. Another feature is a running scenario contest, one a month and the winning scenario to be published each month.

Film is also offered as the prize to the winning author. This first issue is packed with interesting and valuable information for the amateur movie fan.

Due to greatly increased sale of film since the first of the year Hollywoodland Studios has found it necessary to enlarge its machine processing plant. "We are now equipped to process all types of film and turn out the work the same day film is received," Mr. Doty says. "Hollywoodland Studios enjoys the film patronage of amateurs living in every state in the Union and from many foreign countries."

Gaudio Declines

GAETANO GAUDIO, A.S.C., Italian-born citizen of the United States, has declined to accept an honor from Victor Emmanuel III, who was once his king.

Gaudio, notified recently that he had been nominated by the King as a Knight of the Crown of Italy for his contributions to the art of motion picture photography, decided to turn down the honor and recognition for his work because it came from a foreign country, although the country was once his home-land.

"The honor is one which can be bestowed only by King Victor Emmanuel," Gaudio explained on the set of "The Old Maid," picture he is photographing at Warner Bros. "It has nothing to do with the present form of government in Italy. Nevertheless, I do not feel that it is right for me, now an American, to accept a foreign order."

FILMOARC PROJECTOR LIFTS 16MM. TO 35MM.

THE initial performance of 16mm. sound film, in color, on the regular 35mm. screen of a public theater was given early in March in the Rockefeller Center Newsreel Theater, New York City. It was agreed by the many attending theater executives that only the trained eye of one experienced in motion picture projection could distinguish that a change had been made from 35mm. to 16mm. film.

This is remarkable, considering that projection of both 35mm. and 16mm. film was made from the same projection booth, covering same length of throw, and that the 16mm. pictures completely filled the regular theater screen used for 35mm. pictures. The film shown was a special subject in color titled "On the Ice," showing famous skaters performing on the Rockefeller Center skating pond.

The 16mm. projection machine used in this epoch-making matching of 16mm. film performance with that of 35mm. was one of the new Bell & Howell Filmoarc, 16mm. arc-lamp sound film projectors.

The entire unit has been engineered throughout as an arc machine, using a high-intensity electric arc formed by two carbons which are automatically positioned by an electric control system to maintain a uniform gap.

The Rockefeller Center Newsreel Theater performance has proved to a most

critical audience that the Filmoarc releases, at last, all the heretofore latent possibilities of 16mm. film, combining distance and brilliance heretofore considered impossible.

This is news of remarkable importance, not only to theater executives but to amateur 16mm. camera users interested in providing community newsreel shots for performance at local theaters. It is anticipated that the Filmoarc-equipped theater management will co-operate with resident 16mm. movie camera owners to make local newsreels a highly exploitable box-office attraction at every public theater performance.

Complete information regarding the Filmoarc 16mm. projector may be obtained by writing Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Ill.—or this publication.

Beating the Tropics

No longer need the travel-moviemaker whose itinerary includes the torrid zone and its fringes fear the deterioration of his movie camera finish if it is in the new Roxalin enamel finish now announced by Bell & Howell.

This finish, which already has been exhaustively tested and adopted as standard on all Filmo 8mm. cameras, may be specified at time of purchase for Filmo 70, 16mm. cameras and Eyemo 35mm. cameras likely to see tropical use. It is claimed for the new finish that it proves highly resistant to conditions of heat and humidity which cause quick deterioration in other types of camera enamel.

Cahill Returns Home

Completing a ten-day visit to the West Coast, Edward C. Cahill, RCA service manager, returned to the Camden home office after attending the Hollywood showing of the new line of RCA Photophone sound reproducing equipment to a large group of studio directors, exhibitors, and projectionists.

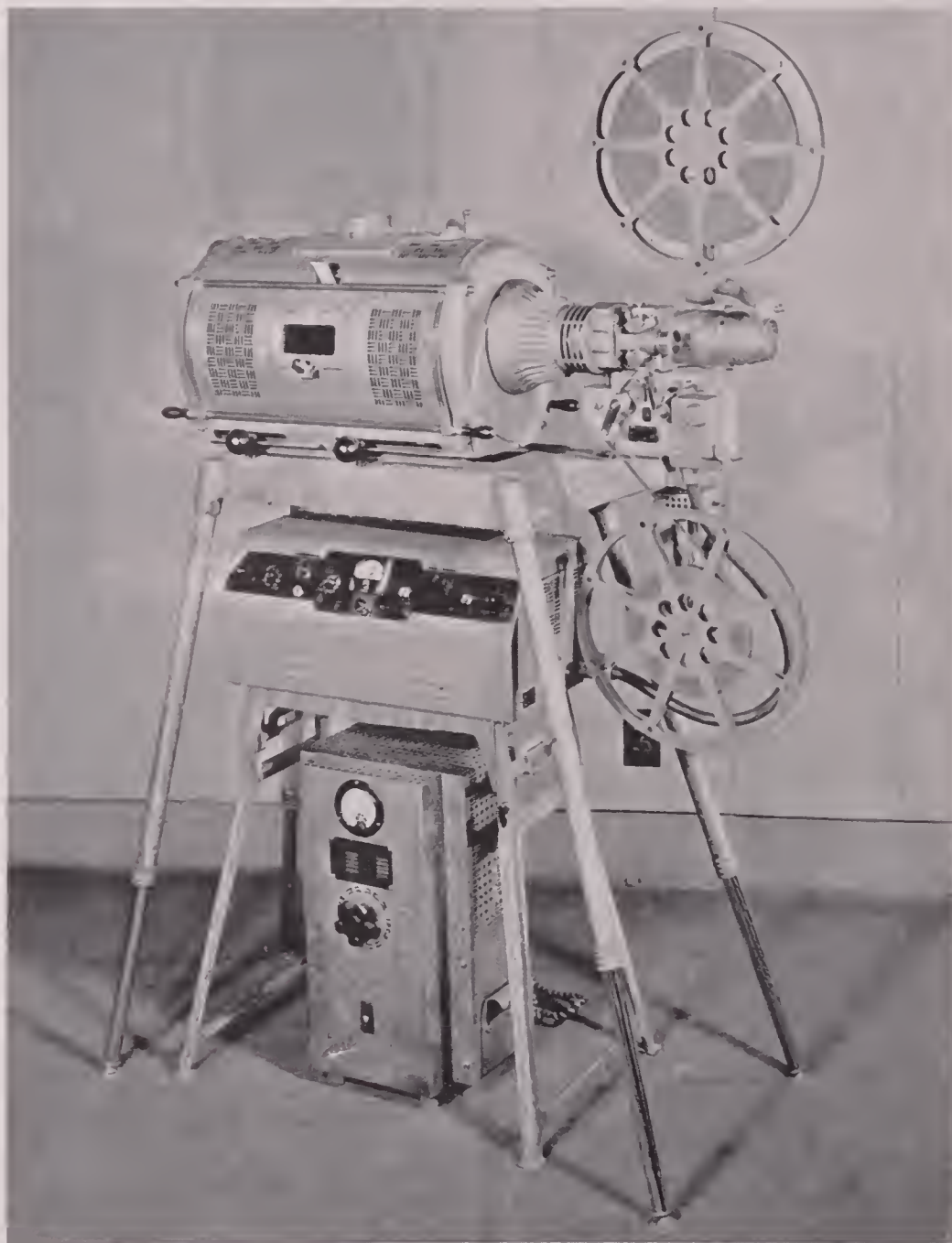
New Projector for Color or Black and White 2x2 Slides

A new compact projector for 2 by 2-inch slides, striking in design, high in efficiency, unusually modest in price, and ideally suited for showing either Kodachrome transparencies or black and white positives, is announced by the Eastman Company.

Suitable for home use, for schools, and for sales representatives or demonstrators who need a projector small in size yet able in performance, the Kodaslide Projector, Model 2, achieves the minimum bulk compatible with the high-efficiency performance of its illumination and optical system. Experienced users will particularly appreciate its comparative coolness and the smooth operation of its slide-carrier.

Price of the Kodaslide Projector, Model 2, with 5-inch f.3.7 lens, is \$33.50, including lamp. With the 7½-inch projection lens, the projector is priced at \$52.

New Bell & Howell Filmoarc, 16 mm. arc lamp sound-on-film projector, in the model which includes an adjustable leg stand for maximum portability.



Photographer Turns to Television

By RICHARD H. LYFORD

GENIUS is quite often too delicate a word to apply to any form of human being, but when a "sound man" who knows the fundamentals and has had plenty of experience really "gets going" it's hard to find an adequate synonym.

About six years ago a little bug called "television" wound up Roy Adams,

young Hollywood inventor, as though he was "head clock" in the equatorial time center of the universe. Today, at the age of twenty-six, he's running full blast and prospects for a main spring going haywire in the near future are mighty dim.

If he is interrupted while involved in some deep technical problem with

the question, "Who's going to win the Chinese War?" you'd probably get the answer, "—Frequency modulating 54 megacycle carrier—electro-static deflection potential is—oh, beg your pardon,—yes, it looks bad for the Chinese."

When calculating on a problem which television might present it's quite difficult to divert your attention—just try it some time.

Since 1933 Adams has built three television receivers—his latest and present one is of the electronic type with the picture being viewed on a five inch cathode ray tube. These tubes, however, are available up to twenty-four inches, which gives a good sized picture for anyone's home.

A common question asked frequently by Mr. John Q. Public is "Well, when will television arrive?" In Los Angeles the Don Lee station W6XAO has been broadcasting scheduled television programs daily for six years! The British Broadcasting System has been at it for even a longer period of time.

According to some reports, its equipment is superior to that of the United States—many other reports, however, are to the contrary. At any rate the United States holds more patents than does any other country.

Until methods of transmission in America become standardized the Federal Communications Commission has refused to issue licenses except for experimental purposes. And not until the commission will allow commercialism in television programs will receivers go on sale to the public.

There is, of course, no commercialism in English programs, consequently that automatically eliminates one of the important barriers with which the promoters of television in America must contend. Britain also has but one broadcasting station with scheduled programs, which is in Alexandra Palace, London, and is operated with a 50,000 watt transmitter.

W6XAO, Los Angeles, has but 1,000 watts, but being operated on an experimental basis there's no necessity, at present, for more power.

At a recent gathering of television technicians in Los Angeles a question was brought up concerning the functioning of a newly developed sweep circuit. Several members of the group, one of whom was a well known authority on television from the east, took turns attempting to explain the question—but all found themselves stymied.

Adams, who was also present, was finally induced to straighten out the situation. He explained the circuit as no one else could, simply because he alone was the one who had developed it, bringing television that much closer to perfection.

(Continued on Page 188)

Roy Adams at his present receiver, which cost him about \$125 to build. A new receiver is under construction.



SETTING 1938

CONTEST

WINNERS

TO MUSIC

By WILLIAM STULL, A.S.C.

Part II

Scoring "Beyond Manila"

W. G. Hahn's colorful three-reeler, "Beyond Manila," covers a considerable range of scenery and action. Accordingly, its musical background must be correspondingly varied. Co-ordinating excellently with the imposing opening title, and affording a pleasing accompaniment to the early sequences of the film, Pietro Mascagni's "Die Rantzau Overture," as recorded by the composer and a symphony orchestra on Columbia record G-50238-D, opens the score.

Following this use was made of "Air de Ballet," from Massenet's "Scenes Pittoresques" suite, as recorded by Pierre Chagnon and a symphony orchestra on Columbia 50509-D.

Following this I played the other side of the first record—"Iris Dances," again recorded by the composer, Pietro Mascagni and a symphony orchestra on Columbia G-50238-D.

This carries us on until the title introducing a sequence about "the Philippine West Point" demands a change in music. Here Sousa's Band plays "El Capitan March" (Victor 20191) while the "future generals" march on the screen.

The second reel opens with some tribal dances, which can be accompanied very well by Ketelbey's "Jungle Drums," played by the composer and his orchestra on British Columbia 9862. At the end of this sequence is one filmed on a Philippine golf-course, and followed by one showing an idyllic tropical beach.

In the middle of the golf sequence the music can change to "Song of the Nightingale," from Napravnik's "Don Juan," played on H.M.V. D-1488 by Ettore Panizza and members of the La Scala orchestra.

The cue for the next music change is a shot of a huge log being snaked

along a mountainside by an overhead cableway. Here the logical music is Ippolitow-Iwanow's "In the Mountain Pass," played by Rosario Bourdon and the Victor Symphony Orchestra on Victor No. 36017.

A musical purist could undoubtedly find fault with the music used for the final reel of the film, since there was available no bona fide Philippine music, and I had to substitute whatever seemed appropriate—even though it apparently had no titular connection with wild Igorrotes. (Titles are not always a sure guide to picture suitability!)

The music opens with Part 1 of "Noche de Arabia," played by the composer, Enrique Fernandez Arbos, and the Madrid Symphony Orchestra on Columbia 67607-D. Then—violating one of my pet taboos—I reluctantly turn the record over (since I could find nothing better with which to continue!) and play Part II of the same piece, on the opposite side.

Following this we play only the Part II side of Billy Mayerl's tone poem "Sennen Cove," recorded by the composer and the Court Symphony Orchestra on Columbia record 50204-D. To conclude the score, we take a cue from a title which tells us that "A bountiful harvest calls for a 'cañao' celebration" and change to the "Dagger Dance" from Victor Herbert's opera "Natoma," played by Arthur Fiedler and the Boston "Pops" Orchestra (our British readers will find the same orchestra called the Boston Promenade Orchestra in the H.M.V. lists, I believe, on Victor 11932).

Scenic Music for "Hot Water"

Earl Cochran's "Hot Water" opens with a succession of running shots made from his car, which demand brisk music. For this I chose a medley of historical German marches, "Grosses Chronologisches Potpourri," Part II, played by Dr. Hermann Schmidt and a Military Band on H. M. V. record EH-534.

By a lucky chance, the changes in

(Continued on Page 192)

Left to right: Clifford W. Smith, vice president and general manager of Erpi activities in Hollywood; George C. Pratt, who retires as vice president April 1 after thirty-two years service with Bell Telephone System, last eight as Erpi representative on the west coast; E. Brooke Price, general counsel, and T. K. Stevenson, president of Electrical Research Products, Inc.



"THE WRONG HAT"

By CINEMA Maker

Scene 1 (Fade-in) (Closeup). A road-side "welcome" sign on the outskirts of town at the city limits.

Scene 2 (Medium). A strip of highway with welcome sign in background. "Dolly" back, if possible, from Scene 1, for effect.

Scene 3 (Medium). Same as scene 2. A car loaded with luggage enters the scene. Its driver and sole occupant is Bill Stevens. The car stops beside the sign.

Scene 4 (Closeup). Bill at wheel of car. He's looking at sign and smiling to himself contentedly. To him the sign's a good sight for sore eyes. Pausing only momentarily, he lets the clutch pedal back and the car lurches out of the scene.

Scene 5 (Medium). Car leaving scene down the highway toward town, away from camera. (Fade-out.)

Scene 6 (Long). Exterior of Mitchell home showing house-front, walk and street curbing. Bill drives into scene and up to curb, leaves car, walks briskly, almost eagerly, to front door and rings bell.

Scene 7 (Medium). Bill ringing bell impatiently. Door opens with Florence standing in doorway. They are old friends and overjoyed at seeing each other. She asks him in.

Scene 8 (Medium). Mitchell hallway, or foyer. Bill removes his hat and places it on a small table by the door. Florence leads the way to a couple of chairs in the living room.

Scene 9 (Closeup). Bill's hat on one end of the hall table.

Scene 10 (Medium). Florence and Bill seated in the living room conversing animatedly.

Scene 11 (Closeup). Clock in the room denotes a few minutes after 12, noon.

Scene 12 (Long). Same as scene 6. Another car drives up to the curb behind Bill's. Ted Mitchell gets out, pauses a moment wondering whose car is parked in front of his house, then walks briskly to his front door and enters his house.

Scene 13 (Medium). Interior of Mitchell hallway. Ted closing door from inside. Tosses his hat on the other end of the same table on which Bill's hat lays. Enters living room.

Scene 14 (Medium). Mitchell living room. Florence and Bill arise as Ted enters. Everybody is glad to see everybody else. Ted greets Florence with a kiss.

Scene 15 (Closeup). Ted and Florence kissing.

Scene 16 (Medium). Ted shaking hands

—CAST—

Bill Stevens...a returning prodigal.
Ted Mitchell.....his former bachelor pal, now married.
Florence Mitchell...the latter's wife, who also knew Stevens before their marriage.
Edith Stone....a young woman of leisure, bachelor-play-girl type.
Marge Williams....an adolescent, gossipy hoiden.
An extra couple in a car.

—Properties—

Two men's hats of same popular make, also identical in style, color and size; one automobile loaded with luggage; two other autos, one preferably with top down; one office desk and a couple of chairs; one liquor bottle and two glasses; telephone and phone book.

with Bill as Florence leaves his embrace. All seat themselves for a visit.

Scene 17 (Closeup). Two hats on table. They are identical in make, style, color and size. On the two hats slowly fade-out.

Scene 18 (Medium) (Fade-in). Living room where Florence, Ted and Bill are seated visiting. The visit ends and Bill, arising to leave, makes his respects and moves toward the front door, Ted and Florence following.

Scene 19 (Medium). Mitchell hallway. Bill carelessly picking the wrong hat off the table, bids his friends adieu and exits out front door.

Scene 20 (Long). Exterior of Mitchell home. Bill briskly leaves front door and crosses to his car, which he enters and drives away. On the rear end of Bill's car driving away. (Fade-out.)

Scene 21 (Fade-in) (Long). Exterior of Edith Stone's home showing front door, walk and street curb. Bill's car drives up to curb. Bill leaves car, goes up to door and rings bell.

Scene 22 (Medium). Bill ringing door bell. The door opens and Edith stands in the doorway. She's garbed as an obvious bachelor girl. The "v" of her revealing blouse, or shirt, is well open, partially exhibiting a lovely figure. She is most happily surprised. They are old friends. She asks him in. He enters.

Scene 23 (Medium). Interior of Edith's entryway. Once inside Bill tosses his hat on to a nearby chair and takes Edith in his arms. She yields to his kisses, again and again.

Scene 24 (Closeup). Bill and Edith kissing.

Scene 25 (Medium). Arm in arm they enter her living room.

Scene 26 (Medium). Edith's living room. Edith and Bill seat themselves on a davenport talking animatedly. They haven't seen each other for a long time and they are very old friends. (Fade-out.)

Scene 27 (Fade-in) (Long). Exterior of Edith's house. A car drives up, preferably with top down, and stops behind Bill's car. Its occupants are the extra couple. They sit in car while driver sounds its horn.

Scene 28 (Closeup). Hand of car's driver repeatedly pushing on horn button.

Scene 29 (Medium). Edith's living room. Edith and Bill are still talking. Hearing the auto horn, both arise and go to the window. They recognize the occupants of the car and go dashing out, Bill ignoring his hat on the chair.

Scene 30 (Long). Exterior of Edith's house. Edith and Bill—come out of the house running to the car at the curb.

Scene 31 (Medium). The car and its two occupants. Bill and Edith enter the scene and lean over the car doors. There is much handshaking and kissing (at the director's discretion) and animated conversation.

Scene 32 (Medium). From the street side of the car, the driver wants to take Bill somewhere and show him something. By holding up his hand with fingers extended upward in a natural gesture, he says it will only take five minutes.

Scene 33 (Medium). Back on sidewalk side of car, Bill makes his excuses to Edith, gestures that he'll be back in five minutes and, as Edith encourages him to go ahead, he slides into the front seat with the couple. They all briefly wave (or high-ball) to Edith as the car lurches away leaving Edith standing on the curb.

Scene 34 (Medium). As Edith turns to go into her house, along comes Marge Williams, the neighborhood pest, afoot. Edith greets Marge politely but not intimately. She dislikes her intensely, but cannot afford to be rude to her as Marge is a mean little gossip. Marge, on the other hand, socially aspires, sycophantically, to be an intimate friend of Edith's. When Marge gestures toward the departing car with raised eyebrows and asks Edith who it was, Edith smilingly evades the question and, touching Marge's dress, compliments her on it. Spreading the skirt with a hand

on each side, Marge says that she likes it, too, or something; and persists in clinging conversationally, and accompanies Edith as the latter turns toward her house. On the front steps Edith futilely tries in pantomime to get rid of Marge; but Marge continues with her persistent chatter and asks for a glass of water. This causes Edith to ask her in.

Scene 35 (Medium). Interior of Edith's entryway. Edith motions Marge to wait there, that she'll be back. Edith exits through the living room. The minute she's gone Marge snatches up the man's hat she sees on the chair. She scrutinizes the hat for initials. Finding none she looks on the under side of the hat-band. What she sees there widens her eyes in surprise.

Scene 36 (Insert). Hatband of hat turned out revealing underside where pasted is a rather large paper label on which is printed in ink in large capital letters:

TED MITCHELL
— Lookout Dr.

(See that house number matches house used, and that towns coincide.)

Scene 37 (Medium). Marge turning hatband back and quickly dropping hat back on chair, as Edith returns with a glass of water. Marge sips water, thanks Edith, and leaves.

Scene 38 (Long). Exterior of Edith's house. Marge leaves by the front door and hastens down the sidewalk away from camera. (Fade-out.)

Scene 39 (Fade-in) (Long). Exterior of Edith's house. Pulling up to curb is car containing couple with whom Bill drove off. They pause only momentarily. Bill drops off and, with an interchange of waves, the car leaves. Bill hastens to Edith's front door, where Edith, having heard the commotion, stands in the door waiting.

Scene 40 (Medium-close). Bill and Edith having a sweet love scene in her entryway. Bill waves his hand toward his hat and, picking it up, begins saying au revoir with more kisses, etc., but Edith insists that he stay and pushes him into the living room. In the living room doorway they stop to kiss again. In the middle of this kiss (Fade-out.)

Scene 41 (Medium). Street and sidewalk exterior. Marge, the meanie, is walking along the street on which the Mitchells live. She approaches the Mitchell home with as near to "grim determination" as possible written across her mean, adolescent face, and rings the door bell. (A dolly shot might be made here.)

Scene 42 (Medium). The Mitchell front door. Marge ringing doorbell and being admitted by Florence.

Scene 43 (Medium). Interior Mitchell hallway. Florence and Marge. Since it is a bit obvious that Marge has headed for the Mitchell domicile to snitch on Ted to Florence, it won't take a great deal of gesturing, or pantomiming, for Marge to convey to Florence about her

finding Ted's hat at the somewhat gay Edith Stone's, who already is anathema to many young wives. Florence is incredulous, even after Marge describes the name and address in the hat-band. Indignant, Florence finally asks Marge to leave. As soon as Marge leaves, Florence's personal attitude changes immediately. She is worried. She thinks that at last has come to her what eventually comes to so many wives in a hectic day and age. She wanders through the house in a daze. (Here follow a series of scenes at the discretion of the director, depending upon the player's talent.) In the bedroom she opens and reads from a beribboned package of old love letters. She studies herself again and again in different mirrors about the house, etc. In the most poignant of these scenes (Fade-out.)

Scene 44 (Medium) (Fade-in). Interior of Edith's entryway. Edith and Bill are still standing in the living room doorway and kissing. For a gag, it can appear that they are just finishing the same kiss on which we faded-out in Scene 40. Finally Bill asks permission to use the phone. Edith indicates the phone on a nearby stand.

Scene 45 (Medium-Close). Bill at the telephone. He looks up number in book. Then he dials it.

Scene 46 (Medium). Ted Mitchell sitting at his desk. He answers phone.

Scene 47 (Medium). Cut back to Bill, who looks at a watch or clock, as he talks.

Scene 48 (Insert). Clock, or watch, shows 4 p. m.

Scene 49 (Medium). Ted at phone also looks at watch while phoning to Bill, and nods affirmatively. Finally he hangs up.

Scene 50 (Medium). Bill hangs up and tells Edith that he must really go this time. He kisses her again and leaves. (Fade-out.)

Scene 51 (Medium) (Fade-in). Ted's office. Bill sitting in nearby chair. Ted is rummaging in the bottom drawer of his desk. He comes up with a bottle and two glasses. As they start to "have one"—(Fade-out.)

Scene 42 (Fade-in) (Medium). Bill and Ted in the latter's office laughing. The bottle is empty. They arise to leave. For the first time they notice that they have identical hats. Amid more laughter, each finds that he has been wearing the other's hat all afternoon, probably mixed up at Ted's house at lunchtime. They leave the office arm in arm, quite "high" in spirits, and laughing uproarously. (Fade-out.)

Scene 53 (Medium) (Fade-in). Mitchell living room. Florence sitting and slightly brooding. Her husband enters with Bill, both laughing at a traveling salesman's story Bill has told Ted. Florence fakes gaiety as she greets the pair and kisses Ted. Suddenly, Bill, laughing, volunteers the story about how their hats are identical, and that he's been wearing Ted's all afternoon. (All this may be done in clever pantomime, or the use of a title or two.)

Scene 54 (Closeup). Florence. She doesn't know just what to believe. As described by Bill, the changed hats idea was told too forcedly to be convincing. It seems that Ted has a guilty conscience or something and the pair of old pals have framed an alibi. For the time being she decides to do nothing and say nothing about it. But she IS wondering plenty as we (Fade-out.)

Agfa Announces Papers for Contact, Projection Prints

TWO new photographic papers, products of recent research in emulsion making, have just been announced by Agfa Ansco Corporation. These new products, Cykon for contact prints and Cykora for projection prints, bring to photographers emulsion refinements that have previously been considered beyond practical range.

The emulsions of the new papers incorporate an improved, full-scale range of tones that results in greater beauty and better accuracy of tone reproduction in the final print.

Intended for a wide range of subject matter, from portraiture to pictorial and illustration work, these two papers are inherently warm-toned. A wide variety of surfaces in both papers is available on double weight stock, including the popular Kashmir in white and ivory and crystal white, silk white and royal white as well.

In addition, the Cykora line will be

supplied in fabric white, porcelain white and porcelain ivory. Both papers are being furnished in three grades of contrast in all surfaces.

The contact paper (Cykon) and the projection paper (Cykora) are generally similar in characteristics other than speed; giving rich, warm-black tones that may be controlled over a wide range through modification of development or after-treatment.

A wide developing latitude may be obtained in standard formulas, and usual processing technique is followed.

Kodascope Libraries Being Discontinued

Because most leading dealers in amateur movie equipment now have their own libraries of silent and sound films for entertainment purposes, and likewise frequently represent other sources of 8mm. and 16mm. releases, the Kodascope Libraries Division of the Eastman Kodak Company will be discontinued, effective April 1.

20th CENTURY-FOX

Finds new Fluorescent MAZDA lamps big help to make-up man

Says Clay Campbell:

(Director of make-up for 20th Century-Fox)

*"It's the best lighting system
that I have ever used."*

● This new lighting system pioneered at 20th Century-Fox, using Daylight Fluorescent MAZDA lamps, is typical of recent installations in make-up departments of several studios. It provides over 150 footcandles of glareless illumination... with a heat reduction of 50% over conventional tungsten lighting. Obviously, this contributes greatly to the comfort of the make-up staff, film artist and studio officials.

In addition, the color quality of this new Fluorescent lighting... the nearest approach to natural daylight ever achieved directly by any artificial illuminant... has proved excellent for both Technicolor and black-and-white make-up.

Good for close-up shots. Used as a front light for close-ups of faces, the new Daylight Fluorescent MAZDA lamps provide a splendid glareless foundation light... particularly with the new, faster film. Cinematographers say that the way its soft, blue-white light tends to iron out wrinkles is marvelous! Have you tried it?



G-E Fluorescent MAZDA lamps are available in daylight, red, blue, green, pink, gold and white; and in 18, 24 and 36 inch lengths.



This installation was designed and constructed by W.T. Strohm, Chief Engineer of 20th Century-Fox. It employs twenty-eight of the new Daylight Fluorescent MAZDA lamps... to provide glareless light, of daylight quality. Clay Campbell, Director of Make-Up for 20th Century-Fox, is shown applying make-up to Binnie Barnes, popular screen artist, for her latest picture, "WIFE, HUSBAND AND FRIEND."

GENERAL ELECTRIC

MAZDA LAMPS



Joan Bennett in Edward Small production is photographed by Charles Rhodes using Baby Keg-Lites.

B-M LIGHTS ENTER FIELD OF COLOR

WITH color photography making the same rapid strides in the commercial still field that it has in the motion picture industry, lighting engineers have been hard pressed to keep up with the pace of improvement daily taking place in portrait galleries.

It seems but a comparatively short time ago that color was first introduced in national magazines. Advertisers were quick to pick up the medium, which many of them believe far outshadows black and white in reader appeal.

Today few national magazines can be found on newsstands that do not contain a goodly percentage of color advertisements. Daily and Sunday newspapers in their rotogravure and magazine sections are going heavily into color.

This demand for color in portraits and commercial art naturally brought about an insistence upon new methods of lighting, just as occurred in the motion picture studios when color finally gained a foothold.

Commercial Men Interested

Archaic methods of lighting, cumbersome equipment, were drawbacks, but lighting engineers today have overcome

these handicaps with new easily handled lights such as the 500 and 750 watt Bardwell and McAlister Baby Keg-Lites which have aroused the greatest interest and demand of still photographers.

This demand has come from the commercial field as well as the motion picture studio. Color portrait photographers have hailed the new lighting for

the dozen and more special features which are daily establishing the Baby Keg-Lite as a boon to their work.

When Charles Rhodes, prominent motion picture magazine photographer, made a fashion sitting of Miss Joan Bennett, who is currently co-starring with Louis Hayward in "The Man in the Iron Mask," an Edward Small production for United Artists release at General Service Studio, Rhodes found the Baby Keg-Lites gave him such an even white light that his subject was absolutely without light consciousness, a most happy result as every still photographer knows.

Rhodes, who has photographed nearly every star in the motion picture business, was particularly impressed by the ease with which this new type light is operated, as well as the fact that it is perfectly designed for the type of "shooting" he did with Miss Bennett.

Hollywood still men who specialize in color photography are plying Bardwell-McAlister for all the enlightenment they can get on the Baby Keg-Lite, which is a small, lightweight unit, designed for use as key light, and for special affects requiring this size and intensity.

For the information of these men Bardwell-McAlister has prepared a special bulletin describing the lamp which has been found particularly efficient with the new high speed films now so popular.

Uses Fresnel Type Lens

The Baby Keg-Lite is equipped with the Fresnel type lens in place of the old plano-convex condenser. The Fresnel lens has a shorter focus with wider beam pickup from the light source, while a

(Continued on Page 186)



Left, closeup B-M quick focusing device for Baby Keg-Lite. Right, closeup B-M quick focusing device for 2000-watt spot.

AGFA'S MEMO CAMERA IN HANDS OF DEALERS

THE new Agfa Memo, the American-made miniature camera which has long been awaited, has just been announced and is being shown by photographic dealers. This new Agfa Memo is the result of several years' work in refining and improving the original Memo camera which did so much to initiate the widespread adoption of miniature outfits using 35mm. film.

The new model is the answer to inquiries and requests for an advanced and modernized version of the original Memo, retaining the outstanding features of the old combined with improvements expected and furnished in the new.

Everyone interested in picture taking will want to see this new, precision-built

camera, for it incorporates a variety of outstanding and exclusive features.

A "double-frame" miniature, using perforated 35 mm. film, the new Memo gives 24 pictures, 1-7/16 x 15/16 inches in size, per cartridge of film. The new model is equipped with an Agfa Memar f3.5 corrected anastigmat lens focusing from 3½ feet to infinity, and is fitted with a new and improved type of shutter designed for greater accuracy and giving speeds of ½ to 1/200 second, bulb and time.

In the design and construction prime consideration has been given to the parts that are necessary to highest quality results, with all non-essential accessories and attachments omitted in order to keep the camera within the reach of any miniature camera enthusiast.

Two exclusive and newsworthy features of the Memo are the arrangements for loading and transporting the film. The already widely sold Memo cartridge eliminates threading and greatly simplifies loading. This cartridge is being supplied in four popular types of Agfa film: Superpan Supreme, Ultra-Speed Pan, Finopan and Fine-Grain Plenachrome. The film transport mechanism employs

a patented sliding lever which advances film in one rapid motion without winding or window watching.

The new Agfa Memo is finished in Polished metal, black lacquer and black morocco leather. Its notable compactness is achieved by a pressed-steel frame and a hinged front platform that snaps quickly into picture-taking position.

Other details include as standard equipment a brilliant, direct view finder; neckcord and eyelets; accessory clip; tripod socket; automatic exposure counter and built-in depth of field scale. In addition, color filters, sunshades and eveready leather carrying cases will be available as regular accessories.

The new Memo camera, made by Agfa Ansco Corporation in Binghamton, New York, is now in stock at photographic dealers and retails at \$35.

Club Like "Manila"

E. M. Culberson of Indianapolis writes that at a recent two-hour showing of prize films at the Indianapolis amateur club "Beyond Manila" was voted top place in the estimation of the 150 guests present. Two meetings are held each month in the club's rooms in the Indiana World War Memorial.

So strong a hit did the "Manila" picture make with the members that application was made to see "Nation Builders" as soon as it can be arranged by the magazine.

B & H Take Over Release of Universal 16 mm. Subjects

TEN Universal feature films, including such outstanding releases as "Show Boat" and "My Man Godfrey," will henceforth receive distribution through Bell & Howell's Filmosound Library instead of the Eastman controlled Kodascope Library, through which they formerly had been available.

The switch was occasioned by the Eastman Kodak Company transfer of film rental activities to that company's retail stores.

This change, effective March 31, adds the features and 15 short subjects to the 27 features, 3 serials and 55 shorts already handled for Universal by Bell & Howell.

The fifteen shorts include Oswald Rabbit cartoons, Lowell Thomas travelogs, Mentone musicals and several comedies.

No Change in Conditions

The conditions under which the Universal films are distributed remain virtually unchanged with Bell & Howell handling. No formalities apply to showings in private homes. In all other locations, however, where a possibility of competition with established motion picture houses exists, a prior approval of the location by Universal is required before these films are supplied. Rentals are made through local motion picture dealers or through Filmosound Branch Libraries in New York, Chicago and Hollywood.

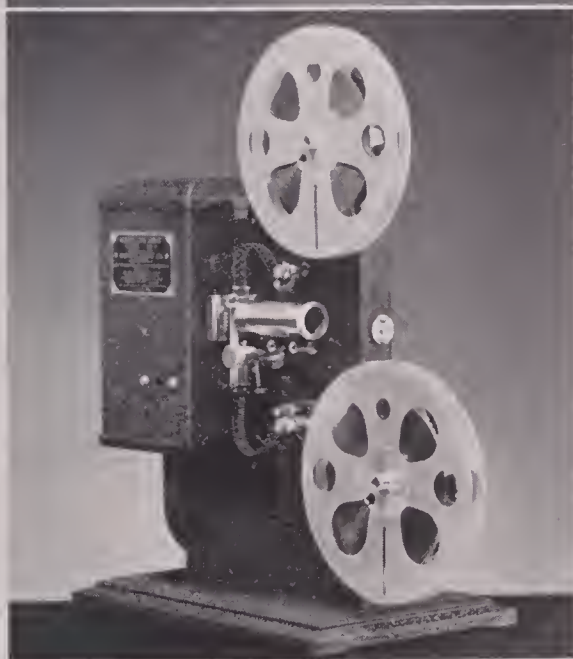
A new catalog describing these and other recent film additions will be sent free, on request, to any 16 mm. sound film user.



Agfa Ansco's new f:3.5 Memo Camera.

New Low Prices

ON POPULAR MOVIE EQUIPMENT



CINÉ-KODAK EIGHT and KODASCOPE EIGHT, Models 20—the “Eights” that popularized 8 mm. movies—are now reduced to \$29.50 for the camera, and \$24 for the projector. A thoroughly competent 8 mm. movie outfit for just a fraction over \$50!

And the famous Ciné-Kodak K *f*.1.9—the 16 mm. camera that is used by most movie makers—is now priced at only \$80.

Their popularity explains their new low prices. Their ability explains their popularity.

\$53.50 BUYS THIS 8 MM.

CINÉ-KODAK AND KODASCOPE

Ciné-Kodak Eight, Model 20, makes movies in black-and-white or full-color Kodachrome, is fitted with a precision-made Kodak Anastigmat *f*.3.5 lens—fixed focus, automatic footage indicator, full-vision eye-level finder incorporated in snap-back carrying handle, securely fastened winding key, built-in exposure guide, self-locking exposure button that permits operator to get into picture. Now only \$29.50.

Kodascope Eight, Model 20, is motor driven, rewinds by motor, has a still picture attachment, is simplicity itself to operate, performs on 60-cycle, 105- to 125-volt A. C. lines. Now only \$24.

THE MOST WIDELY USED 16 MM. MOVIE CAMERA, NOW ONLY \$80 WITH *f*.1.9 LENS

Year in, year out—Ciné-Kodak K has led the 16 mm. field. Its ultra-fast Kodak Anastigmat *f*.1.9 lens, focusing from 2 feet to infinity, is interchangeable with six telephoto lenses and a wide-angle lens. The “K” has both eye-level and waist-height finder systems, two speeds—16 and 8 frames per second, automatic footage indicator, built-in exposure guide, loads with all Ciné-Kodak black-and-white films and both regular and Type A Kodachrome, is richly finished in genuine leather and chromium. And it's now priced at but \$80—or at \$91.50 with de luxe carrying case for camera, film, and accessories.



EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

3-Way Microphone Announced by RCA

ONE microphone which combines in its compact, streamlined case all the characteristics of three different type microphones, making it ideal for radio, movie or any public address use, has been announced by the RCA Manufacturing Company. A handy switch at the base makes the new unit uni-directional, bi-directional or non-directional instantly.

Perfected in the same RCA research laboratories which developed the first ribbon type velocity microphone and the first uni-directional cardioid pattern microphone, the new unit finds limitless applications in radio studios, on movie sets, in auditoriums, night clubs, and any other indoor or outdoor location where an ordinary velocity, pressure or uni-directional microphone proves insufficient for every application. It is designated as Model 77-C.

With the control switch in the uni-directional position, the instrument picks up only sounds reaching the front, or live side—turning a deaf ear to those emanating from any other angle. As a bi-directional microphone, it performs like an ordinary velocity instrument, being responsive on only two sides. In the third position, the control switch permits sounds coming from any angle to be picked up.

The microphone is actually two mikes in one—a bi-directional velocity microphone and a non-directional pressure instrument. The output of each comes down to the control switch, which cuts in one or the other, or both. When the two are connected in series, they give the uni-directional response.

Because of its small size (2½ in. x 8½ in.), the three-way unit is ideal for use by speakers or singers before an audience. It is not large enough to act as a barrier, and can be adjusted in an instant to pick up or "ignore" audience reaction.

In small broadcasting studios space may be conserved by using it as a uni-directional microphone and placing it against a wall or in a corner. Its value is also apparent for use with public address systems, particularly portable types, because of its adaptability and light weight (two pounds).

Its directional characteristics are uniform at all frequencies, an advantage which has come to be accepted by many engineers as exclusive with velocity-type microphones. This has been accomplished in the 77-C by using ribbon units for both the velocity and pressure sections.

The 77-C microphone has a uniform frequency response from 40 to 10,000 cycles. In spite of its small size and light weight a high order of sensitivity

(-62 db for a 10 bar signal) has been achieved through new structure design and the use of new magnet material.

La Casa of Alhambra

Featured at the February meeting of the La Casa Movie Club of Alhambra were many of the films made recently by the members. Some excellent work was shown in the filming of the Rose Parade of January 1 at Pasadena. Members Powell, Gardner, Haynes and Winchester showed the parade in color.

Mr. Gaylord put on a fine film depicting Christmas in which his small daughter starred. He also displayed a good sequence in "Happy Birthday." These two films were in color and made indoors.

Mr. Korn's gave an interesting talk on "Helpful Hints." Mr. Manuel gave a talk and showed color of his recent trip to Florida. The sixty-five persons present voted the meeting a real success.

Price Reductions by B & H

March 1 Bell & Howell notified its dealer organization of the news of an entirely changed sales set-up, involving new motion picture camera and projector models, sweeping price reductions, simplification of lines and replacement of catalog letter-and-number designa-

tions of most models with easy-to-remember proper names.

The announcement to dealers by J. H. Booth, Bell & Howell general sales manager, includes the information that completely discontinued models will not be subject to terms of the Bell & Howell retailer fair trade agreement after March 1.

Besbee Reel Clip Fastens Ends on Projection Reel

Sometimes it's the small, non-complicated gadget that meets a real need. This is certainly the case with the new Besbee Reel Clip which, in a simple and quick-acting way, solves once and for all the problem of fastening the film ends on any 8mm. or 16mm. projection reel, large or small.

The Reel Clip is simply a small, handy metal device, with spring fingers, which may be pushed easily between the flanges of any movie reel and holds the film securely in place. It retains the film firmly, yet is easily removed or replaced. The Reel Clip is provided with a matte outer surface, upon which the film title, number or other distinguishing mark, may be easily written in ink, crayon, or pencil.

The device is finished in brushed aluminum and is provided with small clips which fit easily into the perforations of the film, thus holding it securely. It does away with awkward spring band film retainers, or with rubber bands which invariably slip off the outer diameter of the film and nestle at the center of the reel, where they are impossible to reach with the fingers.

The clips come packed in boxes of one dozen, either in the 8mm. or 16mm. size.

Besbee Reel Clip designed to fasten ends on 8mm. or 16mm. film.



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PHILADELPHIA CINEMA HOLDS THIRD ANNUAL

"Mighty Summits," the epilogue, so to speak, of the late Ripley W. Bugbee, president of the Philadelphia Cinema Club, was exhibited for the first time to the members and guests of the club assembled at the third annual banquet, February 28 at McCallister's, in Philadelphia.

"Mighty Summits," a 1600-foot all color presentation taken in the Canadian Rockies at varying levels up to and including the peak of Mount Robson, some 12,000 feet above sea level, for sheer scenic beauty is a film that will go down as one of the finest travel pictures it has been our pleasure to see.

Musical scoring, via the double turntable system, was provided by Robert W. Crowther. Editing and titling were done by Mrs. Bugbee, ably assisted by Mr. Crowther.

It was the privilege of the 300 members and guests assembled at this banquet to see this presentation as well as to enjoy the principal speaker of the evening, Dr. Calvin O. Althouse, who discussed rather intimately his viewpoints on Hollywood, where he had had an opportunity to study the motion picture industry at first hand.

Walter S. Fogg, who is a member of the Society of American Magicians, proved to the assembled audience that an ordinary line of patter accompanying tricks can be converted to suit the particular group listening. Mr. Fogg was able to vary his talk in such manner as to pass it on films and photography in general. Instead of the customary ani-

mals that are pulled out of the hat, Mr. Fogg was able to pull films, film containers and other accessories out of his magic.

It was our pleasure to be host to Professor E. B. Perkins and Dr. Marshall Smith of Rutgers University.

Through the courtesy of Dr. Althouse we were able to listen to some marvelous singing, and through the courtesy of Station KYW a musical background also was provided.

A group of twenty-five door prizes was available through the courtesy of the local photographic dealers. A great deal of fun was had in the distribution of these prizes, which were won by means of a special drawing, conducted by Mr. Rasch, ably assisted by Mr. Hoot.

The banquet will long be remembered as a fitting climax to the third year of the Philadelphia Cinema Club.

The March contest of the Philadelphia Cinema Club was divided into two groups, 16mm. and 8mm. Films submitted and their ranking were as follows:

16mm. Group, 1. "Dance Date," John Bessor and James MacLane; 2. "Our Southern Highlands," George Pittman; 3. "The Night Before Christmas," A. F.

Philadelphia Cinema Club celebrates at banquet successful conclusion of third year.

Munsell; 4. "Westgate Hills," Paul Gelzer.

8mm. Group, 1. "Toby the Pup," the Rev. Ernest Vandenberg; 2. "Odds and Ends," Arthur Hurth; 3. "The Zoo," Frank Hirst.

All the 16mm. films were Kodachrome, all the 8mm. monochrome. Prize awards were made to first and second ratings in each group.

One 16mm. film and 8mm. film introduced movie tricks into the scenario, and both used the animation of toys to perform these feats.

Unfortunately, due to pressure of other work our newly re-elected secretary-treasurer, Horace Wilson, was forced to resign. George Pittman, also a charter member of the organization, was unanimously elected secretary-treasurer for the ensuing year.

Our officers for the ensuing year are as follows: A. L. O. Rasch, president; Robert W. Crowther, vice president; George Pittman, secretary-treasurer.

The constitution has been amended to provide for an increase in membership, up to 100, and at the same time the officers were authorized to consider delinquent anyone whose dues were not paid within sixty days after April 1st.

R. N. LEVENE,
Chairman of Publications Committee.

Los Angeles 8mm. Club

The March 14 meeting was held at the Bell & Howell auditorium, 716 North La Brea avenue. President Leitch introduced three members of the Pomona Movie Club, who were guests at the meeting.

Vincent Hague told of a novel still camera club sponsored by Radio Station



KEHE the meetings of which are held at places especially selected for providing an evening's shooting by the members, with sets, lighting, models and prizes arranged for by the radio station. Suggestion was made that club members interested in this type of filming contact the station.

President Leitch announced that Robert Teorey, editor of "Thru the Filter," by reason of business pressure would be unable to continue his duties and that this important position would be filled by Claude Cadarette. The new editor then called on Orrin Williams, Irwin Dietze, William Parsons, John Northrop and Dr. Edward Boller to furnish articles for the April issue. Mrs. H. J. Barney was appointed to cut stencils and Courtney Dow to be official crank turner.

Members were again notified of the 50-foot reel contest to be held next month. The semi-annual contest, ordinarily held in July, has been discontinued and in its place will be a contest for women members only, with Doris Lee and Louise Arbogast in charge.

The feature of the evening was Randolph Clardy's premiere showing of his 8mm. scenario film with sound. Perfect synchronization of music and dialogue with film has been achieved by Clardy through the use of geared camera-recorder and projector-reproducer. This picture, believed to be the first of its kind, proves that nothing is impossible for the serious 8mm. filmer.

After a short intermission the remainder of the evening was devoted to showing films brought in by members for analysis and criticism by the technical committee. Those contributing were Roosevelt, Teorey, Dietz, Caloia, Gavin, Harper and Chapman.

V. P. BURDICK, Secretary.

New York 8mm Club

As a result of the increasing number of applications for admission to this growing New York group, the club voted at its February meeting to raise the membership limit to thirty. This action, together with the dropping from the rolls of inactive members, will permit the induction into the club of some seven new members and the establishment of a new waiting list.

The film program at the February meeting featured a guest film, "Summer Tour," made by Lois M. Styles, a record of a European trip, replete with shots of beautiful color and composition.

The rest of the evening was devoted to a program of outside and members' films, including Mr. Spanier's reel made on a new Super-Pan 8 mm. film, Mr. Hollywood's "New York at Work," a commercial reel by Kenneth Space, "How to Use Your Camera," and the club interchange film, "Leading a Dog's Life," a most amusing film by H. L. Thompson of the Seattle (Washington) 8mm. club.

V. M. GARRETT.

Agfa Roll Films Now Are "Satisfaction" Guaranteed

A small slip of paper tucked in each roll of Standard and Plenachrome film has, in recent years, come to identify Agfa film as "guaranteed film." This guarantee of "Pictures that satisfy or a new roll free" has been of value to camera-users throughout the country who have encountered difficulties in picture taking, for the guarantee service was initiated to analyze and correct picture taking troubles experienced by amateurs.

It should, therefore, be of great interest to camera users that the well-known Agfa guarantee has now been extended in scope to include all roll films made by Agfa Ansco Corporation. For several months now guarantee bonds have been inserted in each carton of Agfa Superpan, Superpan Press, Finopan and Super Plenachrome roll films (in addition to Standard and Plenachrome). All Agfa roll film is now backed by this unusual guarantee of complete user-satisfaction.

During the several years the Agfa guarantee has been in operation it has proved to be extremely helpful.

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CHICAGO, ILL.

New Publications

Directory of 16mm. Film Sources. Published by Victor Animatograph Corporation, Davenport, Iowa. Seventh Revised Edition. 104 pp. and cover. 5¼ by 7½ inches. 50 cents.

The book was designed especially to help the 16mm. projector user in the choice of sources where he may buy, rent or borrow films in specific subject matter fields. For the sake of convenience sources are classified into three general groups according to types of films distributed.

A new feature of the Directory is a list of subjects and specific indication of the sources from which films may be secured in each group. During the preceding ten years over 160,000 copies have been distributed the world over. The present edition is founded on the extended experience gained in learning the requirements of all types of 16mm. equipment users.

The publishers last year conducted a special investigation among ten thousand schools regarding the experience

gained in visual aids, which indicated that nearly six thousand of those institutions made use of the Directory and of the film directories issued by state film libraries.

Particular attention has been given to the locating of new film sources of 16mm. material, with sound included, not only in the school but in the home, church and industry.

American Cinematographer Hand Book and Reference Guide. Third Edition. By Jackson J. Rose, A.S.C. 218 plus xviii. pp. 4 by 6½ inches. \$3.

The Third Edition of the Hand Book and Reference Guide of Jackson J. Rose, A.S.C., as set forth in an introductory note, very frankly declares the tremendous advances in film manufacture recently have overnight rendered obsolete much hitherto standard data on film, filtering and the like. Cited as representative of these advances are the introduction of Agfa's two super-fast

films and the more recent arrival of Eastman's Plus X, Super XX and Background X.

"In making these necessary revisions," the compiler states, "the opportunity was seized to comply with suggestions received from readers of the previous editions, requesting additional information concerning studio lighting equipment, Kodachrome, Dufaycolor and the bi-pack color processes, projection tables based on standard stereopticon and minicam slides as well as sound film aperture and further expansion of the sections devoted to sub-standard cinematography and miniature camera photography. These and many other additions are to be found in the following pages."

The fact there are approximately 250 entries in the index gives a fair indication of the variety of subjects treated in the book. Covered are all types of motion and still cameras as well as all kinds of still and motion picture film, with all accessories.

The Art of Table-Top Photography. By Arthur E. Gleed. American Photographic Publishing Company, 353 Newbury Street, Boston. 46pp. 5 by 7½ inches. 1939. \$1.25, cloth cover.

For the photographer who finds pleasure in doing miniature or trick work there is much in this little book that will provide real entertainment.

The author in his preface takes issue with those who would relegate to a somewhat trivial form of humor the giving of reality to flights of imagination or to adventures in the world of make-believe. He declares table-top photography in the hands of a craftsman can be raised to the dignity of one of the arts.

The table of contents lists Introduction, Practical Details, Picture Building, Picture Composition, Photographic Details and General Observations. There are twenty illustrations, demonstrating what may be accomplished. The first, for an example, is "Nightmare," the first of which shows two men on a cliff battling with knives. The second sequence reveals the weaker of the two being shoved off the cliff. Behind is a dark and forbidding sky. Below are rocks and a few trees.

There is abundant opportunity presented here for ingenuity in construction, especially in view of the whole stage being confined within a space of four square feet. There are problems of lighting, too, that will give pause to the average amateur maker of pictures.

Mini-Kinks, the Amateur Camera Guide. No. 2. By Stanley Carlson and Harvey Goldstein. Huddle Publishing Company, 321 Loeb Arcade, Minneapolis. 64pp. 5¼ by 7½. 1939. 25 cents, paper cover.

Over 250 aids to the user of miniature cameras are here furnished in brief form, the average length of each being around fifty words. It is complete in its

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coverage, treating of home development in considerable detail. The comments run alphabetically, the variety of which may be gauged from the opening paragraphs, which are:

Accelerator, Acetic Acid, Aerial Photos of Cities, Agitation, Agitation of Miniature Film, Air Motion Overcoming, Angle of Camera for Portraits, Animal Pictures, Backgrounds, Backgrounds for Children's Pictures, Building Pictures, Bulbs for Color Work, Calcium Chloride, etc.

Where and How to Sell Photographs.
By H. Rossiter Snyder. Fomo Pub-

lishing Company, Canton, Ohio.
40pp. 50 cents, paper cover.

"Where and How to Sell Photographs" is No. 4 of an entirely new series of "Profitable Photography" booklets by the author. The captions of the chapters are perhaps the best means of indicating the tenor of the contents, and among these are How to Organize Your Efforts, New Trends of Photography, Rebirth of American Magazines, Vigorous Press Prints; Envelops, Labels, Captions and Postage, You Do Not Have to Travel, Copyrights Not Needed, Releases for Advertising Uses, Analysis of the Magazine Markets, Sports and Outdoors Magazines, etc.

air conditioning equipment has been installed on the roof.

This regulates humidity and temperature throughout the building with individual sectional control. During the summer months a film of water, 65 degrees in temperature will be continually sprayed over the roof for cooling purposes.

Two New Type Film Clips And Weights in Agfa Line

Two new-type film clips have just been added to the line of Agfa photographic equipment. Called "Easy Clips," the new Agfa items are furnished in two sizes—the 1½ inches wide, selling at \$1.20 a dozen and the second 2 inches wide selling at \$1.80 a dozen. Special lead weights, which fit these new "Easy Clips," are also available at \$1.20 a dozen.

The many outstanding features of the new "Easy Clips" make them ideal for both amateur and professional use. Fabricated of stainless steel, they are simple to operate and provide a positive, locking grip that won't let films slip. The new Agfa film clips provide both hooks and holes for hanging purposes, have smooth, rounded corners to prevent scratching, and allow for easy attachment of lead weights.

CINECOLOR FORMALLY OPENS BIG NEW PLANT

CINECOLOR March 14 flung wide the doors of its new \$250,000 Burbank plant, the ultra-modern concrete reinforced structure, consisting of one story and a basement, covering 45,000 square feet of a three acre site. The main floor consists of executive offices and other departments.

Under personal supervision of First Vice President Alan Gundelfinger, this division embraces a complete patent research department, technical library, chemical laboratory, research, control, optical and dark rooms.

Designed for 100 per cent streamlined efficiency, the department is divided into a number of spacious rooms progressively laid out for camera unloading, negative polishing, printing of 35 and 16mm. films, waxing, positive cutting, optical printing, inspection and shipping. Also included are a machine shop, special effects camera department, and private cutting rooms for clients.

Processing of all types of color positives is carried on in one tremendous room 70 feet wide by 200 feet long. Processing of negative film is conducted in a specially constructed chamber.

For projection Cinecolor has constructed a beautiful, comfortable theatre with a seating capacity of 75. All equipment is of the latest type.

The basement has been designed to accommodate the 50 vats used in the mixing of chemicals for developing. These range in capacity from 1,000 to 20,000 gallons. The circulation in each vat is controlled by its own individual motor.

All electrical wiring and pipes for water, gas and the first sprinkler system have been installed in a scientifically ventilated tunnel, to prevent the possibility of their being effected by chemical fumes. DC sets are also located in this tunnel. In the event of electrical power failure, an auxiliary plant will pick up the task of supplying current with a maximum interruption of only ten seconds!

These are located outside the plant in the rear, with an undrillable, burglar-proof, fire-proof steel door guarding their entrance. Vaults are equipped with fire sprinkler system and other novel safety features. They are of the same type as those used in modern banks.

Since the printing and handling of Cinecolor films calls for exacting control of heat and moisture in the air, special

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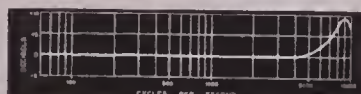
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B & M Lights Enter Color Field

(Continued from Page 177)

spherical mirror is placed behind the globe to project the rear light forward toward the lens. This mirror is manufactured under a patented process which gives a hard, durable surface of unusually high reflectivity.

One of the striking features of the B. and M. products is its own quick focusing device (patent pending), which consists of a lever arm protruding from both front and rear. It is moved from side to side for focusing spot to flood. This quick focus has been an exclusive feature of all B. and M. lights.

It is a great improvement over the old-fashioned method of turning a small

crank, with the resultant loss of time and temper. So simple is this mechanism that a high lamp may be focused by merely exerting a slight pressure against the protruding arm.

From the viewpoint of the lighting engineer, most interesting is the fact that the Baby Keg-Lite operates in absolute silence. Proper ventilation lowers the burning temperature, thereby increasing the life of the globe and reducing the softening or blistering to a minimum.

Light output will focus from a 4 degree spot to a 44 degree flood. Photometric tests show the spectral quality of the light to be of correct color temperature for color stills.

Baby Keg-Lites are now in use at Warner Brothers, Twentieth Century-Fox, Paramount, General Service Studios, R. K. O. and other producing units.

Peninsula Cine Club

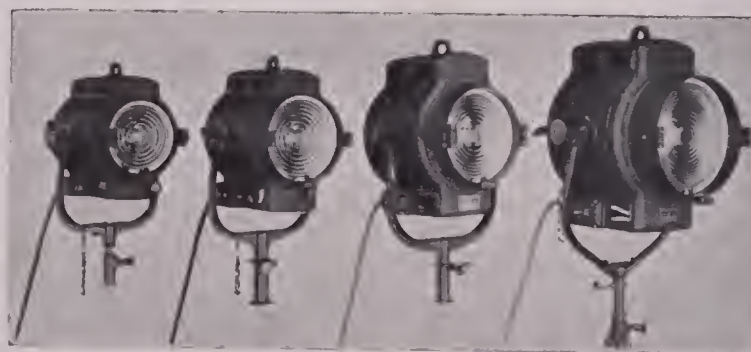
At the parsonage of the First Christian Church in Monterey, Calif., March 4, a committee representing the Peninsula Cine Club conferred with a committee appointed by the church for the purpose of perfecting plans for the proposed documentary record on 16mm. black-and-white of the church ceremonies April 22 and 23 commemorating the forty-fifth anniversary of the organization of the church.

Representing the congregation were the minister, the Rev. James H. Woodruff, S.T.M.; Mr. and Mrs. H. C. Steinmetz, Mr. and Mrs. Charles Bell and Mr. and Mrs. W. J. Allen, all of Pacific Grove. Appearing for the Cine Club were Mrs. Juanita M. Pugh, Harold H. Daugherty and Gilbert I. Rhodes.

The complete record of the church, together with a written account of the early struggles and final organization of the congregation, were laid before the

joint committee assembled, and from these were selected for photographing the original covenant, first roster of members, the register of ministers, and the first hymnal. A complete continuity was then carefully planned and arrangements perfected as a cooperative club project for the filming of this event for the permanent records of the church.

Following the regular business meeting of the club February 15, the following films were screened: A short 16mm. black-and-white subject, "Adventures in Photomacrography," by Gilbert I. Rhodes; two remarkable 400 foot 16mm. Kodachrome reels sent by Doctor Fisher of San Francisco, entitled "Yosemite"; two subjects filmed by Dr. G. V. Rukke, "California Missions" and "Pasadena Rose Parades," and two excellent reels of 8mm. Kodachrome by Lieut. Thomas Gillis of Monterey Presidio, "Alaska" and some highly interesting local material.



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SPYROS SKOURAS OPENS U.S.C. SECOND SEMESTER

Spyros Skouras, head of National Theaters Corporation, and in the movie capital on one of his periodic visits from New York, opened the Fox-West Coast sponsored course in distribution and exhibition, given for the second consecutive year beginning in the second semester of the school year, 1938-39. Charles A. Buckley, head of Fox-West Coast's legal department, continues as the instructor in this popular course.

Boris Morros, former head of Paramount's music department, and now an independent producer, was unable to open his second semester course in cinema music due to pressing business in New York and Paris. The course, as a result, has been continued by able lecturers from the music departments of Paramount and Warner Brothers studios. Mr. Morros will resume direction of the class immediately on his return to Hollywood.

Walter Scott, assistant to Dean Raubenheimer of the College of Letters, Arts and Sciences, continues for the second successive semester his popular course in story and continuity. Unfortunately for the regular day students, the course is held at downtown headquarters in the Transportation Building, primarily for adult night school enrollees.

Campus students, when possible, are making the trip downtown in order to get instruction under Scott, and it is felt if this trend continues Scott may be called back to the regular campus in heed to student requests.

Kappa Delta Alpha, campus cinema organization, has definitely started working on a biblical theme, to be produced on 16mm. and incorporating stock shots of Jerusalem taken by one of the faculty.

Student groups have been buzzing with the rumor that Dean Raubenheimer, executive head of the College of Letters, Arts and Sciences, which includes the department of cinematography, is contemplating a general reorganization for the coming school year 1939-40.

Since contracts to the staff are generally offered around May 1, this is the time news of changes often come. Department policy takes two courses, that of making the work of professional character or of making the cinema studies purely cultural.

While faculty heads tend toward the academic and cultural side, students definitely favor the practical, professional training, and point to architecture and pharmacy as precedent-making examples for this course. Meanwhile, it is understood Dr. Morkovin, head of the

department, has applied for leave of absence during the coming year.

Donald Duke very successfully premiered his 16mm. production on Modern Dance last March 1, with the department of physical education participating in a program that brought out over 250 persons to see the film.

The production was enthusiastically received and obviously Duke was wholly successful in conveying to the screen the various training steps incorporated in modern interpretive dancing. A piano accompaniment was so skillfully played that the presentation was indistinguishable from a synchronized recorded underscore.

JACK V. WOOD, S.A.C.

Polaroid Booklet by Leitz

The Stereoly polaroid system of three dimensional projection has excited interest where it has been demonstrated. Since it was introduced less than a year ago many organizations and individuals have obtained this equipment and are using it for educational projects and for their own pleasure.

With this system of three dimensional projection, color or black and white pictures may be seen on the screen in all

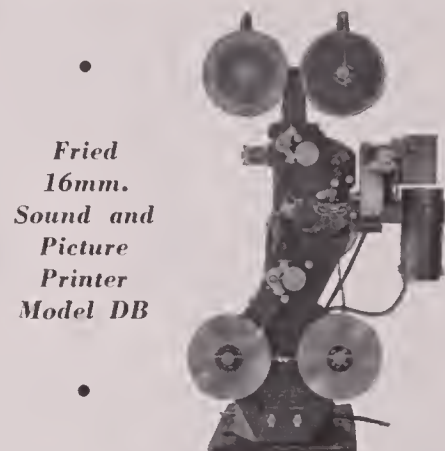
their beauty of spaciousness and depth.

An interesting, well illustrated booklet on the Stereoly polaroid system of three dimensional projection has recently been issued by E. Leitz, Inc., 730 Fifth ave., New York. A request for booklet No. 1271 will bring a free copy.

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CABLE CINECAMERA

Photography to Television

(Continued from Page 172)

Television is not the only field to which Adams has applied himself. At 821 North Elwood street, Glendale, behind screened windows, you might find any kind of an apparatus. A towering antenna fastened to the roof makes the house stand out like a barkentine passing a fleet of fishing smacks on a calm sea. When retiring Adams slips under a maze of wiring in order to find the bed.

His laboratory starts in the living

room—ends up in the kitchen. In reaching for a cathode ray tube he might easily get a bottle of milk.

Sound and photography being more or less synonymous, a visitor would find several prints in the sink getting washed, for he is also an ardent camera fan and possesses a Super Sport Dolly (German make) with an f2.9 lens and shutter speed up to 1/250th. He is intensely interested in color photography, and is looking forward to a simplified method of color printing at home, doing away with present transparencies and all the equipment necessary to project them.

On one of his many bookshelves you'll find scientific books covering such subjects as mathematics, physics, science of musical sounds, solenoids, alternating current, differential equations, operational circuit analysis, advance calculus, electricity and magnetism, analytical mechanics and dynamics.

Previous to his television experiments he "tinkered" with radio in its early stages and recalls the first crystal set he built to pick up programs from the first station in operation in Los Angeles. Today, combining his amazing knowledge of radio, photography and optics, Adams is plunging into fields heretofore unscratched.

Mixing science with art, he is an accomplished musician and earns part of his living by playing a bassoon in the Federal Symphony Orchestra of Los Angeles. Exchanging musical notes for dollars for equipment!—so he may continue with his experimental work in his amazing home-laboratory.

If the saying, "you get out of life what you put in" holds any weight Adam's future looks assured.

Pratt Succeeded by Smith When He Retires in April

George C. Pratt, vice president of ERPI, will retire on April 1 after more than thirty-two years with the Bell Telephone System, the last eight of which were as ERPI representative on the West Coast. Prior to coming to Hollywood Mr. Pratt was vice president and general counsel of Western Electric.

He also was general counsel of ERPI from its organization to 1931 and had charge of the legal work in connection with the granting of licenses and supplying of equipment to motion picture producers and theatres using Western Electric Sound. Following his retirement Mr. Pratt will engage in the practice of law in Los Angeles.

Mr. Pratt will be succeeded by Clifford W. Smith, who has been elected a vice president of ERPI. Mr. Smith joined the Bell System as commercial manager of the Societe de Material Acoustique, Paris, in 1929 and subsequently occupied the positions of director of Western Electric Company, Ltd., London; European commercial manager of ERPI; assistant general foreign manager of ERPI and general foreign manager of ERPI. Mr. Smith is a native of Michigan and took up his duties with ERPI on the West Coast in December last.

Three Kodak 35mm. Films Ready in 27½-foot Lengths

The three new Kodak films for miniature cameras—Kodak Panatomic-X, Kodak Plus-X and Kodak Super-XX—are now available in a form especially suited for darkroom loading of miniature camera magazines.

This new form is a 27½-foot length of frame-numbered 35mm. film, safety base, with leaders cut out at intervals of thirty-six exposures. The strip is sufficient for five 36-exposure loadings, and the ready-cut leaders simplify measuring and cutting.

Since all three films are fully panchromatic, loading must be done in darkness. Price of the 27½-foot strip, in either Plus-X, Panatomic-X or Super-XX, is \$2.50. All three films are also available in bulk rolls, without ready-cut leaders or frame numbering.

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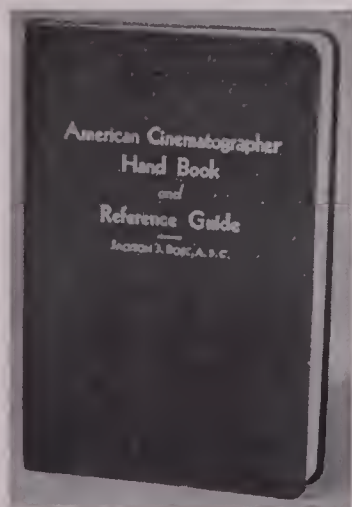
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Clardy Successfully Makes 8mm. Talker

(Continued from Page 164)

ning and tilting may be done with the camera—quite enough, Clardy has found, for most ordinary scenes.

Closeups are generally made with a telephoto lens, to minimize changing set-ups with the necessarily bulky equipment and also to minimize camera noise.

Each scene is recorded on a separate band on one or more disks. The most convenient method is to use two disks, recording alternate scenes on each.

When the picture has been processed and edited, these individual scene recordings are then rerecorded on to a single continuous record. The result is a single reel of film with an accompanying single disk of synchronized sound.

The same methods are used in reproduction. A convenient shaft in the projector is extended beyond the case to connect with the same gear box. This is connected by flexible shaft to the turntable of the record player. Thus

sound and picture are again held in exact synchronism.

All that is necessary is to place the needle of the pick-up at a marked starting point, and to bring a similar marked starting point into the projector's gate. Then when projector and turntable are started together, sound and picture records move in the same synchronism with which they were made.

Synchronism Good

And let it be said that this synchronism has, in Clardy's initial production been proved very good. In closeups and longshots alike, lip movements and spoken words synchronized as perfectly as might be expected in any professional sound film.

The sound quality was excellent, surprisingly so in view of the fact that the recording played was actually a rerecording of a rerecording of the original rerecorded master disk.

In addition to making home talkies, Clardy's equipment permits the apparent ultimate in home scored musical accompaniments for otherwise silent films. Since the picture and sound are made and reproduced in accurate synchronization, this permits the use of scores far more closely synchronized to action than is possible with non-synchronous equipment.

Since the longer playing 33 $\frac{1}{3}$ r.p.m. records are used, permitting one to compress the score for a full reel of picture on a single disk, standard 78 r.p.m. records may be home rerecorded to form this record. Moreover, musical backgrounds may easily be rerecorded under dialog, or sound effects may be added to music and dialog completely in the professional manner.

Since no one who has not actually made a sound picture can adequately describe the technique used, we hope to prevail upon Clardy to contribute to future issues articles dealing with the details of his process.

They are sure to be interesting reading—and to open up new fields to the many sound minded filmers, both 8mm. and 16mm., for the basic principles Clardy employs can be used with equal success on any type of equipment.

MGM and Erpi Collaborate on Portable Sound Recorder

A "super-portable" sound recording channel for location work which weighs 84 percent less than equipment now in use, but the performance of which approximates the finest studio installations, has been designed by Electrical Research Products, Inc., in collaboration with the sound department of Metro-Goldwyn-Mayer.

Extreme portability characterizes every feature of the new design. In contrast with earlier "location" equipment, which was housed in nine separate cases and weighed 900 pounds com-

plete, the two units of new apparatus weigh only 150 pounds.

The larger cabinet contains the recording machine and associated controls including those for the camera motors. This unit weighs 102 pounds. The smaller case, weighing 42 pounds, contains all mixer, amplifier and noise reduction equipment.

The "super-portable" channel, while developed primarily for location sound recording, achieves a degree of naturalness in recorded sound that is comparable with the most elaborate permanent channel installed for studio production. Extensive field tests have been conducted by Metro-Goldwyn-Mayer during the past year and several recent productions of this studio have been completed with the new instrument.

The device will be on display at the Society of Motion Picture Engineers' Convention at the Hollywood Roosevelt Hotel April 17 to 21.

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Setting to Music 1938 Contest Winners

(Continued from Page 173)

this medley coincide well with the pictured action of the first several sequences—even to a trumpet fanfare where one is called for as the camera rests on a spectacular, towerlike rock pinnacle silhouetted against one of those ultra-deep Kodachrome skies!

At the shot of the fishermen's rowboats on the lake, following by several scenes the title and scene of the celebrated fishermen's bridge, the music changes to Sinding's "Rustle of Spring."

Several recordings of this are available; my choice was the one by the British Broadcasting Company's Wireless Military Band on British Columbia DX-269, which I believe has since been pressed here and listed in the American Columbia catalogues.

Following this, we again have recourse to the ever-useful music of Albert W. Ketelbey—this time "Quips and Cranks and Wanton Wiles" from his suite "Three Fanciful Etchings," played by the composer and his orchestra on British Columbia 9407—the opposite side, by the way, of the fourth disc used in the score for "Nation Builders."

The score for the first reel is concluded with Berlioz' "Carnival Romaine Overture," Part I, played by Henri Verbrugghen and the Minneapolis Symphony Orchestra on Brunswick 50156.

I believe this selection has since been recorded by other orchestras, either under its original French title or the English translation, "Roman Carnival"; if these are more easily available, they should be used, if only to gain the benefits of modern high-fidelity recording in place of the early electrical recording of the record I own.

The second reel opens with Part I of Ponchielli's "Dance of the Hours" from "La Gioconda," recorded by Rosario Bourdon and the Victor Symphony Orchestra on Victor 35833. Next, the same orchestra and conductor give us Tschai-kowski's "Romance," on Victor 35808, and we conclude with Percy Grainger's beautiful "Colonial Song," played by the same group on Victor 36035.

Simplicity for "Santa"

The home movie winner naturally calls for simple, generally lively music, since it deals with a child's Christmas. We open with Ketelbey's "Wedgewood Blue," Columbia (American) 50334-D, played by the composer and his orchestra. (A Victor record of the same selection is also available.) Next, we change to "Wedding of the Rose," played by Dajos Bela's Artists Orchestra on Columbia G-59072-F.

The closeup of the clock which prefaces Santa's visit is the cue for the next music change to the "Serenade" from Drigo's "Les Millions d'Arlequin," played

on British Columbia 9092 by the British Broadcasting Company's Symphony Orchestra under the direction of Percy Pitt.

The title "Christmas Morn" gives us the next cue, and we finish the score by playing the reverse side of the first disc—Ketelbey's "The Clock and the Dresden Figures," played by composer Albert W. Ketelbey and his orchestra on Columbia 50334-D.

Some scoring enthusiasts may very well complain that these scores are too simple: that they contain too many records played completely through (all records listed are to be so played, except where specific cues indicate otherwise); and that more frequent music-changes would keep the accompaniment in closer tune with the film.

To that I can only reply that while all that may be true, I believe that performable simplicity is equally desirable. Working in the dark, trying to change records and keep track of discs, picture and cue-sheet, too many accidents may happen which can mar the pleasure of the audience.

Therefore, wherever one record can be made to do its fullest share of work, rather than using two or three for the

same footage, I've tried to make it do so. Similarly, I've chosen twelve-inch discs instead of ten-inch ones wherever possible.

Experience in both arranging and performing these scores has convinced me of the wisdom of this. Each successive year I've noticed that the scores for the prize films have somehow grown simpler, with fewer cues and music changes.

And I don't think it is altogether chance or politeness that the simpler scores of this year have in their public performances earned more compliments than some of the earlier ones when, as happened once, I used as many as a dozen records to score a single short reel of film. This year never more than five records are used for any one reel; the average is 3.7 records per reel.

Except in the most unusual circumstances, keeping scores simple pays double dividends: they are easier to play and easier to listen to. After all, in spite of its very real importance, the musical accompaniment to any picture should remain just that—and keep itself a simple, non-intrusive background for visual entertainment.

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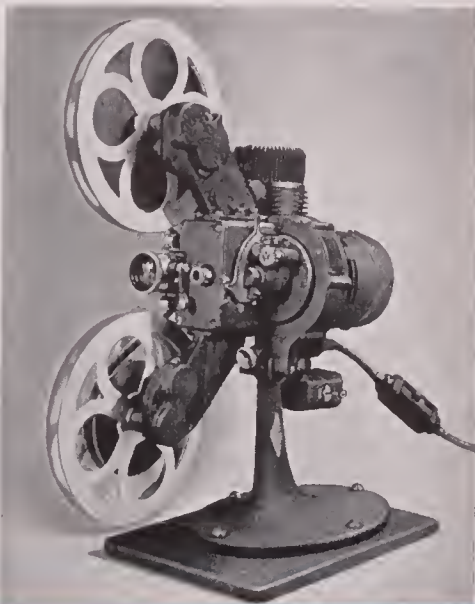
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AMERICAN INEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

May
1939
25c

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Published in Hollywood by
American Society of
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Arnold Heads A. S. C.
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Hollywood Designs
New Meter
STULL

Sheeps' Blood in
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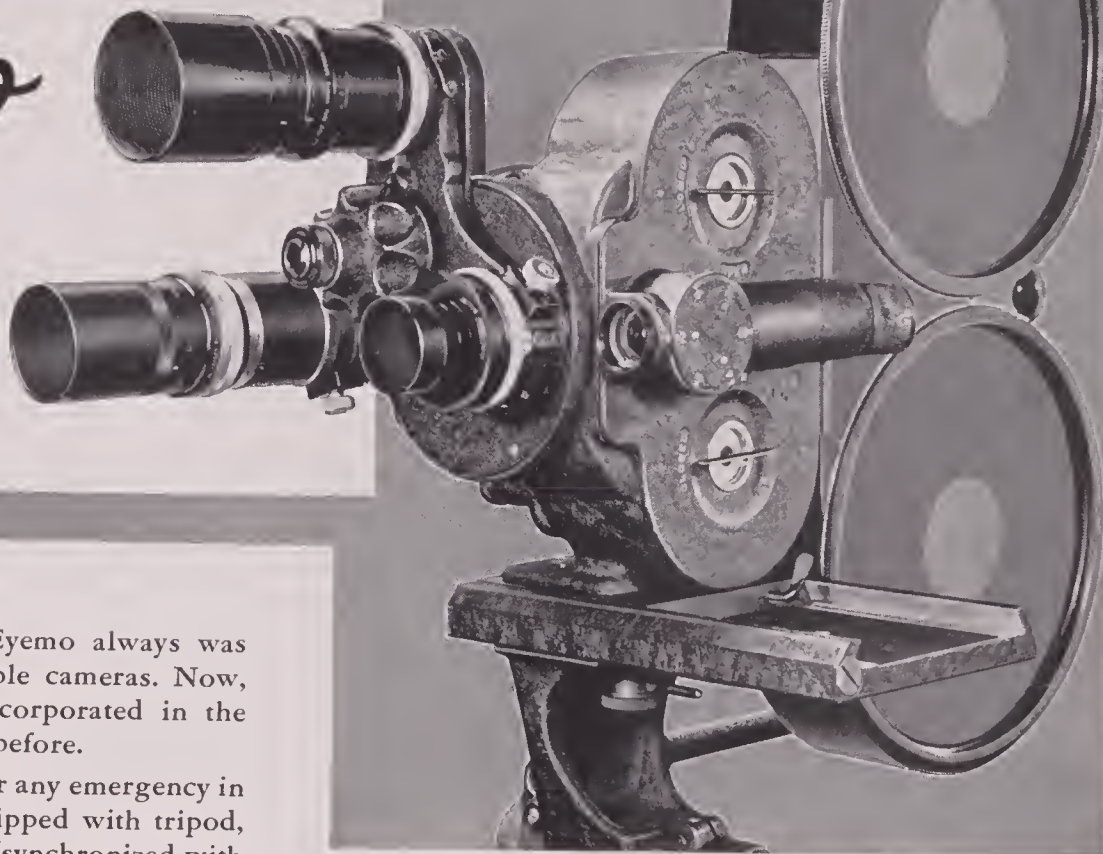
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AMERICAN CINEMATOGRAPHER

A Technical and Educational Publication on Motion Picture Photography.

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Front Cover

Here is one of the final sequences in the making of "Broadway Serenade" by M-G-M. Jeannette MacDonald, the star, is shown at the top of the tower immediately opposite the camera mounted on the boom. Oliver T. Marsh directed the photography on this Robert Z. Leonard production. The still was the work of Virgil Apgar.

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ARNOLD AGAIN HEAD OF A.S.C.

By GEORGE BLAISDELL

JOHN ARNOLD again is president of the American Society of Cinematographers. He was elected on April 11, succeeding Victor Milner, retiring after two years in the chair. It was an even two years ago that Mr. Arnold had retired after seven years in the presidency, believing he had done his bit for good and a'.

The members of the board of directors, however, declared otherwise when faced with the job of filling the chair. They wanted Arnold, and when they had

concluded their statement of reasons Arnold it was.

Ray June, who had just been re-elected to the board by an unusual and even a remarkable vote, was chosen first vice president. Second and third vice presidents respectively were Ted Tetzlaff and Joseph Valentine. The office of treasurer was combined with that of secretary, Frank B. Good, who for several years had filled the latter office, being chosen for the combined posts. Frederick L. Kley was re-elected

executive vice president of the society. The board of governors as it will be constituted for the coming year is as follows:

John Arnold, John W. Boyle, Charles G. Clarke, Robert De Grasse, Arthur Edeson, George Folsey, Alfred Gilks, Frank B. Good, Ray June, Charles B. Lang, Jr., Hal Mohr, Charles Rosher, Ted Tetzlaff Joseph Valentine, Joseph Walker.

The new members of the board are Messrs. Clarke, De Grasse and Valentine.

John Arnold is more than a veteran cinematographer. He was one of the first to induce his fellow-craftsmen to get together and work together for the mutual advancement of the quality of their product and for the recognition of their craft—not only in the studios but in the world at large.

He was one of the five men who in the early days of motion pictures—in the days when these were known only as moving pictures—formed the Cinema Camera Club. Later a branch of the same body was organized in Los Angeles. This was succeeded later by the Static Club. In 1918 the A. S. C. was formed.

This action quickly was followed in January, 1919, by the formal incorporation of the association. That means

John Arnold again heads the A. S. C.

Ray June, first vice president A. S. C.



the society is now well on its way to its second double decade.

Arnold was a truly young man when he started, in 1906, in the studio of Thomas A. Edison in the Oranges, New Jersey. The inventor who in later years was to be recognized everywhere as one of the first in the development of motion pictures was a man of a multitude of interests. Motion pictures was but one of many.

It was in work other than that of the screen that Arnold was placed. In school and university he had specialized in scientific engineering and there were numberless spots outside of the picture division in the Edison plant where work was uncovered for him to do.

One of the Pioneers

Arnold had not been long employed, however, before gradually he found himself a part of the new and rapidly developing industry known as moving pictures. In the Edison studio he became one of the pioneers in the making of sound pictures—twenty years before that angle of the screen's activities became a permanent part of film history.

In 1908 there were pictures of Harry Lauder as he sang his songs and danced before the camera. This present fact was revealed by a remark of this reporter that he recalled seeing a good sound picture of Harry Lauder, which brought forth a reply from the new president of the A. S. C.:

"Yes, I shot it—as well as others of Eva Tanguay and quite a number besides."

At that time the records were made first and afterward played back practically on the same system as is pursued today on some special occasions. That the plan was not followed up was due to the inability to maintain synchronization in the theaters. Projection was a

new thing and practically anybody could—and did—qualify as an operator.

Decision to cease production operations was sudden, so sudden in fact that two sound pictures which had been completed were never released.

How Operators Were Lifted

Just to digress for a moment it was not long after that period that Frank Richardson, who conducted a projection department in the Moving Picture World, began a militant campaign to impress upon operators that they were projectionists.

"Projectionists is your word, I'll tell you, fellows," he insisted. "It has a sound that is 'tony.' You adopt it and stick to it and you'll find it will double your salaries, if—you study hard and learn a lot of things more than just turning a crank."

Operators became projectionists, they studied hard; Richardson among others wrote books on projection, which the projectionists profited by. And for quite a number of years Richardson has been known in the Society of Motion Picture Engineers and in the industry at large as a projection engineer.

And when sound came in ten years ago the projectionists were all set to project it—and to project it in a manner that rated practically 100 percent.

Arnold, who for many years has been head of the camera department at MGM, for twenty-five years has been continually in the employ of the several companies that in 1924 gradually merged into the present organization.

Twenty-five years in one institution—especially one which several times has changed its title and its personnel generally—is something of a record. And by the same token eight years as chief of the A. S. C. also is another record.

admission of the older brother, Henry. In the same year the firm conducted the first photographic prize contest and aroused much interest. In 1862 Henry took an active interest in the business.

Gradually the brothers became manufacturers as well as dealers. Henry Anthony is credited with being the first to take an instantaneous photograph—becoming the father of the snapshot.

Collodion Process in Use

During the period of the Civil war the wet collodion process came into use. Thereby plates were coated with light-sensitive material immediately before use. This permitted shorter exposures and the making of extra prints. During the Civil war Matthew B. Brady, famous photographer of the period, used Anthony materials for this process. The next development was the gelatin dry plate.

With that came the dropping of the cumbersome accompanying material taken along by the photographer. In 1880 the Anthonys put on sale their first gelatin dry plates and four years later their first hand cameras.

In 1887 the Rev. Hannibal Goodwin invented roll film. Frequently he was in these days in consultation with the Anthonys, who later marketed his creation. The invention was followed by the devising of cameras that would permit use of the film.

Following the deaths of the brothers in the eighties, while the company was being guided by Richard, son of Edward, the combination of Anthony and Scovill was made. The Scovill Manufacturing Company had been creating metal products since 1802. It began to make daguerreotype plates in 1842 in its photographic department.

In 1902 the company became Anthony and Scovill. At this time its manufacturing facilities were changed from New York to Binghamton. Five years later the name was changed to Ansco, the "An" representing Anthony, and the "sco" the first syllable of Scovill. The present name of Agfa Ansco Corporation was adopted in 1928 when the American interests of the Agfa Film organization were merged with Ansco.

In the book there are other chapters heavily illustrated entitled "Two Motion Picture Academy Awards," "How Agfa Film Is Made," "Agfa Papers Outstanding," "From a Sheet of Steel to a Camera," "Other Binghamton Facilities," and "What Stands Behind the Agfa Trade-mark."

Large Lighting Order

Paramount and R K O-Radio Pictures have placed orders for lighting equipment recently totaling over \$60,000, one of the largest in Hollywood in some time. The volume amounted to over 500 units in each case and came from the shops of Bardwell and McAlister. All of the equipment is designed to be adaptable for fast black and white and Technicolor film.

AGFA ANSCO'S HISTORY REACHING FOR CENTURY

IN a handsomely printed booklet of twenty-eight pages and cover Agfa Ansco Corporation tells "The Story of Agfa Ansco." It is a long story, even if briefly and graphically told—a story that lacks but three years of making it an even century. The hundredth year of photography is being celebrated this present year. The centennial of Agfa Ansco will be commemorated in 1942.

Shortly after the invention of photography by Jacques Daguerre the latter was visited in Paris by Professor S. F. B. Morse, later the originator of the telegraph, who following his return to America bestowed upon Edward Anthony his somewhat necessarily scant knowledge of the new work.

Anthony had just been graduated from

Columbia University, where he had specialized in mathematics and engineering. He quickly became proficient in the new process. When he photographed highlands along the Canadian border his pictures enabled the American Government to establish its boundary claim. These were the first photographs ever made or used by a government.

In Washington the committee on military affairs gave Anthony use of its committee rooms for his sittings. Success followed his venture in the capital city. He decided to enter business as a dealer in daguerreotype materials. In 1842 he established a photographic supply house under the name of Edward Anthony at 308 Broadway, New York.

In 1852 the firm was enlarged by

Hollywood Engineer Designs New Type Meter

By Wm. Stull, A.S.C.

DURING recent months several outstanding figures in the cinematographic world have expressed the hope that it might be possible to develop a photoelectric light meter capable of giving selective readings of both brightness and contrast of any desired part of a scene, and that such a meter might be built into the camera.

It is therefore doubly interesting to learn that a meter closely conforming to these ideas actually has been designed by a Hollywood engineer.

The designer is Charles S. Franklin, creator of several photoelectric instruments already in use in Hollywood laboratories and studios. He has named

the device the "Multiscope Light Meter" and points out that it will make it possible to obtain both overall and selective readings quickly and easily from the camera position, and if necessary even through the same lens used in photographing the scene.

The device will give a direct measurement of lighting contrast and can be coordinated to match the speed and color sensitivity of any type of material, including even infra-red sensitive film.

This meter gathers the light to be measured through a lens, preferably one covering the same angular field as that covered by the camera lens. This lens forms an image upon a ground glass screen in the usual manner.

Directly in front of the ground glass is placed a thin opaque matte, perforated with a large number of very small holes, arranged in a predetermined pattern.

Like Series of Shutters

Behind the ground glass is a scanning disk, revolved by a small, synchronous motor. The holes in the scanning disk are so arranged that when the disk is rotated each hole in the matte is individually scanned; in other words, the scanning disk acts like a series of shutters for the innumerable tiny perforations in the matte, so that only one of the holes is passing light at any one time, while all are revealed and obscured in quick and regular succession.

Behind the scanning disk, a condensing lens concentrates the light received through the system upon a photoelectric cell. If necessary, a filter may be placed in front of this cell, to coordinate its color sensitivity with that of the film being used.

Since photoelectric cells are available having a sensitivity extending well into the infra-red even this "invisible light" can be metered with such an instrument.

The current generated by the light in the photoelectric cell is amplified and passed on to a cathode-ray oscillograph, which serves as the indicating dial of the meter.

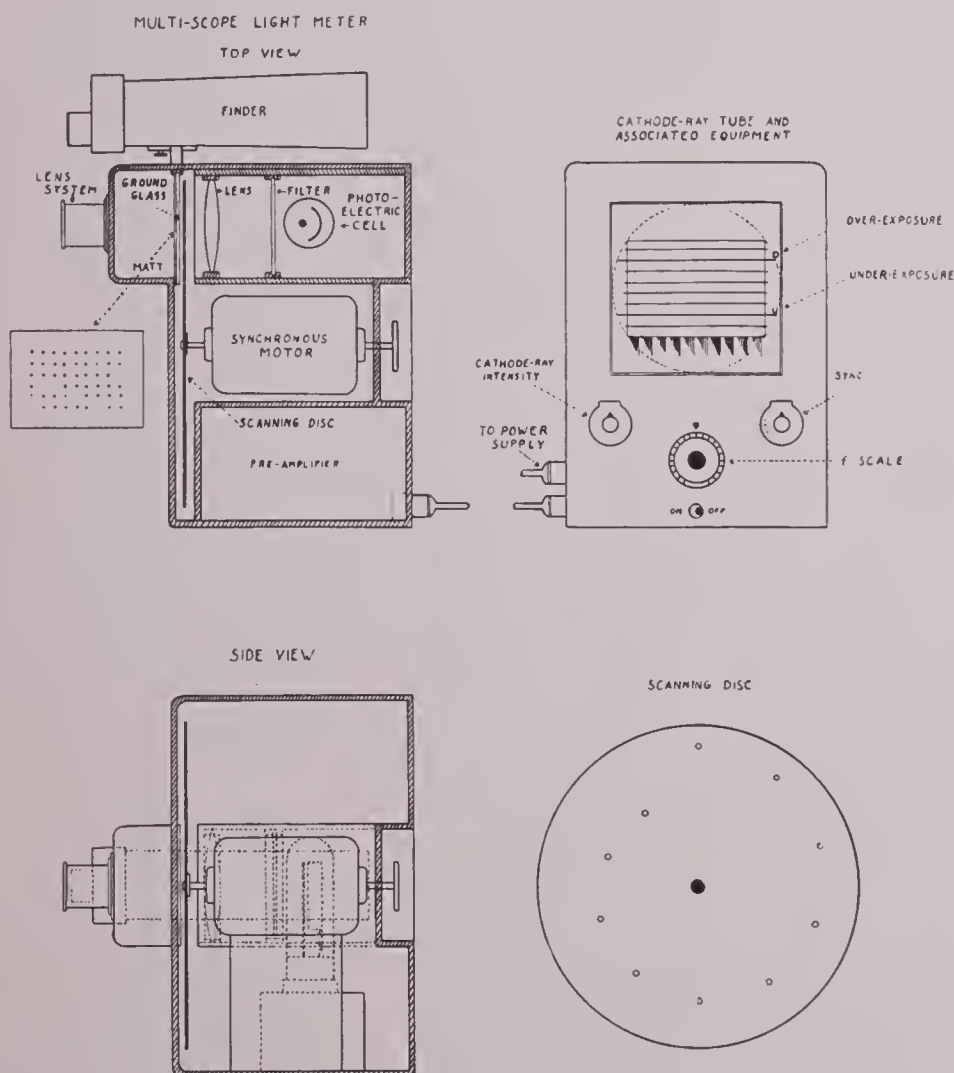
Since this instrument, while well known in sound recording, radio and television, is relatively unfamiliar to the photographic world, a word of description may be advisable.

Cathode-Ray Tube

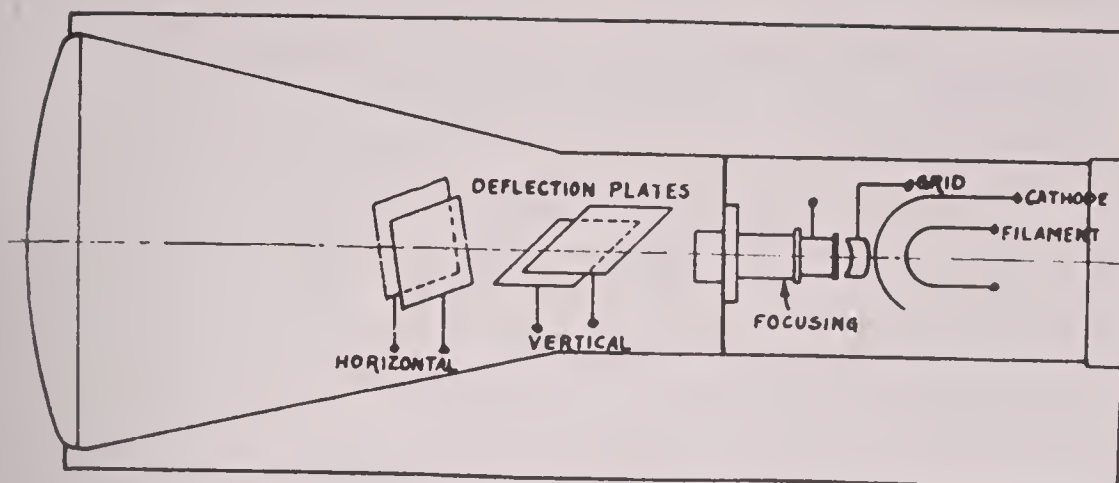
The heart of this oscillograph is a cathode-ray tube, which, reduced to its simplest terms, is an electron gun, which shoots a stream of electrons along its length.

At the opposite end the tube widens to form a screen which is coated with salts which glow when bombarded by the electron beam. When properly focused the stream is visible on the screen as a small, luminous spot.

The electron stream passes between two sets of plates, one pair mounted horizontally, the other vertically. When current is applied to one pair of these plates, appropriately polarized, negative and positive, the electron stream is de-



BY C. S. Franklin
DATE OCTOBER 31, 1937



Operating principles of Cathode-Ray tube.

beam may be bent up or down, or from right to left, or any combination of them.

The electron stream reacts instantaneously to any change in the currents applied to the plates, so the device may be used to form the most intricate of patterns, including the images seen in a television receiver, sound-wave patterns, etc.

In the operation of the Franklin multiscope light meter the image is divided up into a large number of tiny light spots by the perforated matte in front of the ground glass.

The synchronous motor turns the scanning disk past the matte openings in such a manner that each hole is uncovered or scanned in turn, the light spot thus caused being picked up by the condensing lens and focused on the photocell.

The output of the photocell is amplified and applied to the vertical plates of the cathode-ray tube—that is, the plates which cause the electron beam to move up and down.

Actions Interlocked

The horizontal plates, which move the beam from left to right, are energized by a timing circuit fed by the same power source that drives the synchronous motor impelling the scanning disk.

Thus the action of the scanning disk and the horizontal movement of the electron beam back and forth across the field are interlocked.

Thus the horizontal position of the cathode-ray beam depends upon the location of the particular matte opening being scanned at any time, while the vertical deflection of the beam depends upon the brightness of that spot.

The resulting pattern consists of a number of vertical lines, each of which represents one of the minute picture areas being measured.

The length of each line is a measure of the light value received from that particular point in the picture. Thus a very bright spot would be represented by a tall line, and a dark shadow by a short line.

For practical use a finder of the usual type can be fitted to the instrument. Upon the ground glass of this finder

can be ruled fine horizontal and vertical lines corresponding to the openings in the meter's matte.

The readings corresponding to points on the vertical rulings on the finder's screen will appear in corresponding positions on the meter's oscillograph, while the ones corresponding to the horizontal rulings will appear between them.

Thus if one wants to determine the brightness at a position visible in the finder as being at the intersection of vertical line "E" and horizontal line 5,

all that is necessary is to locate the calibration beneath the indicator-dial representing Section E and measure the height of Line 5 in that section.

The higher the line the brighter the intensity of light being received from the particular spot being read.

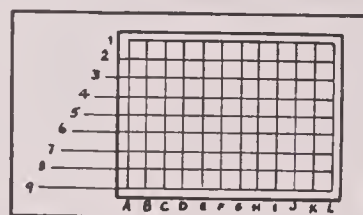
Readings Made Easily

The cathode-ray screen used for this may be of almost any convenient size, and may if necessary be further magnified by a simple viewing lens, so that readings for even a relatively large number of image points may be made easily, with all the image points represented on the screen without overcrowding or complication.

The instrument can be calibrated so that a given gain setting of the amplifier will represent a given emulsion speed. The limits of over and under exposure can be definitely fixed as two heavy horizontal lines on the scale. With such limits clearly marked, it would be easy to tell at a glance whether any portion of the scene area was

(Continued on Page 230)

PICTURE FINDER SHOWING CROSS-HAIRS AND INDEX



CATHODE-RAY SCREEN AND INDEX

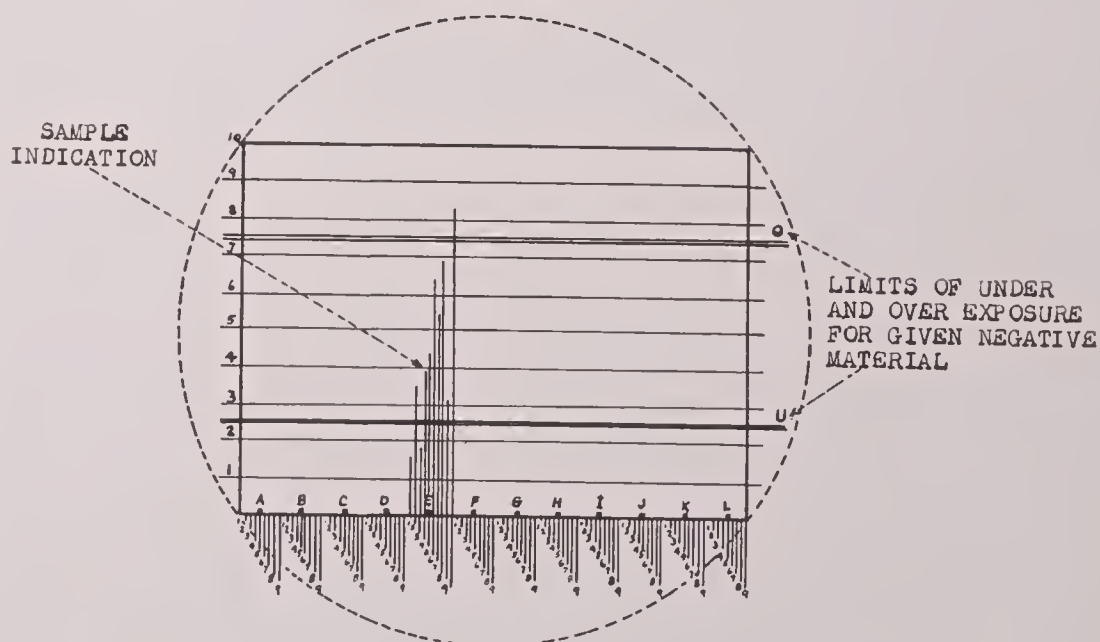
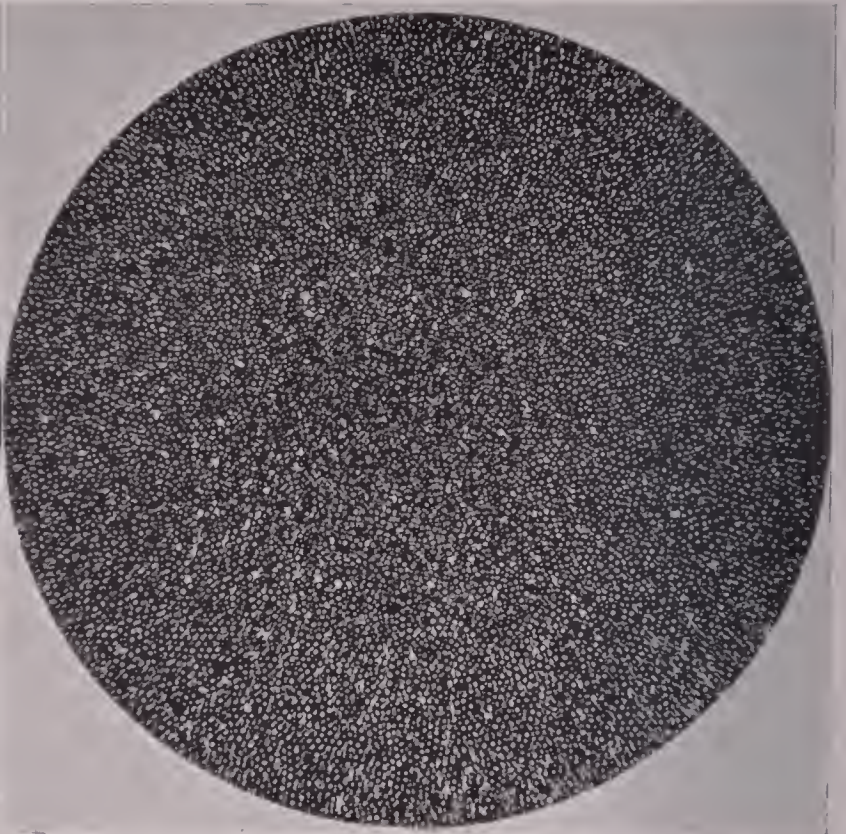


FIG. 7

BY: C. S. Franklin
DATE: OCTOBER 31, 1937



Starch grain screen



Blood corpuscle screen

To Use Blood in Color Photography

By IRA B. HOKE

NATURAL color photographs made from blood! Startling, macabre—yet scientific—is the impression given as for the first time Color Development Company announces its revolutionary adaptation of the additive color process through the use of sheeps' blood corpuscles as a dye carrier in the production of natural color moving picture negative and positive, as well as other types of photographs.

Headed by Chalmers C. Smith and Ray H. Pinker, inventors, Color Development Company, under the business management of Howard C. Brown, has opened offices and laboratory at 6418 Santa Monica Boulevard, Hollywood.

To a world of photography, now fully color conscious, and on the qui vive for new developments, this process promises the most fascinating step in the long history of additive color photographs.

Earliest progenitor of the process was the starch grain mosaic introduced in France thirty-two years ago.

While this well known process affords a color plate of astonishing fidelity, its adaptation to motion pictures was deemed unsatisfactory because of the relatively large size of the starch grains when magnified to the required screen proportions of the average theatre.

Then, too, starch grains vary greatly in size, the larger grains often being three times the diameter of the smaller. This difference would under some conditions in the moving picture type of photograph tend to produce untrue color values, as, for example, an extremely large grain of color adjacent to an unusually small example of one of the other colors.

Starch grain mosaics have, moreover, a low light transmission value, the

average starch grain screen requiring 10 times as much light as an emulsion alone.

Inventors Pool Ideas

Cognizant of the shortcomings of the starch grain mosaic, yet realizing that an additive type of moving picture color film would offer substantial economy in production, Chalmers C. Smith, moving picture executive, and Ray H. Pinker, biochemist, pooled their experience, and after several years of experiment evolved the blood corpuscle carrier as an ideal means of producing a fine grain dye base, and have been granted a basic United States patent, No. 2,115,886, on the process.

The inventors claim that the film mosaic composed of blood corpuscles overcomes all of the former difficulties encountered in the irregular type of screen. Their experiments show them that they can manufacture a screen of high transparency.

In order that we may readily understand this last mentioned and most important advantage, let us first look through the microscope at one of the millions of blood corpuscles that are present in a single drop of that fluid.

It appears as a circular biconcave disk with rounded edges about one six-thousandth of an inch in diameter and about a quarter of that in thickness. Its color is little more than a pale yellowish tinge, almost transparent. The deep red color which it gives the blood is observable only when the corpuscles are seen en masse.

Not only will the screen formed of these minute disks afford a mosaic of high transparency, but, owing to the extremely small size of the blood cor-

Fig. 1

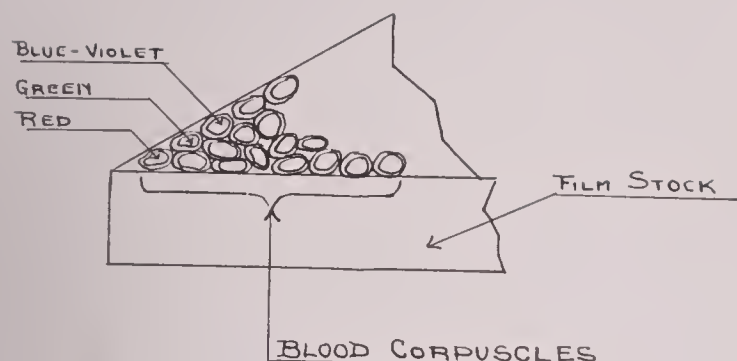


Fig. 2

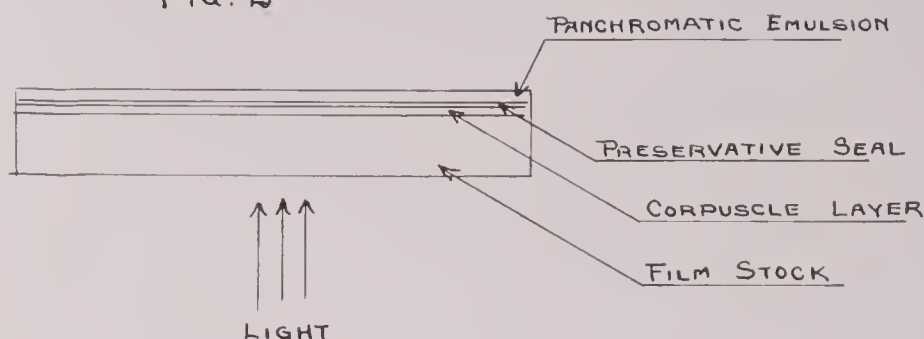


Figure 1—Diagrammatic perspective view of blood corpuscles mosaic as applied to film stock. Figure 2—Diagram showing relationship of the various layers.

puscles, the mosaic will be of a minimum thickness, as the elements, because of their flat disk shape, have a tendency for the most part to cling to the surface of the film stock in a single layer.

Looking again through the microscope we see blood corpuscles from various domestic animals, sheep, dog, horse, rabbit, etc.

While there is a slight variance in size between corpuscles from different animals, of from one three-thousandth to one six-thousandth of an inch, they range as a whole nearly the same. Contrasted with the bulky starch grain masses they appear astonishingly uniform and diminutive.

Fine Screen Possible

Some comparison with the starch grain screen may be had from Mr. Pinkers' estimate that 3 million starch grains occupy a square inch of that type of screen, while about 27 million blood corpuscles will cover a like area.

Not only is the small size important in the motion picture type of mosaic, but it is desirable that all dye carrying elements be of uniform size and preferably of regular shape.

In other words, each element should be substantially identical with every other element except for color. This would make even distribution of the mixed dye carrying particles almost certain. Such an ideal seems to have been reached in the blood corpuscle mosaic.

In the manufacture of color film by this process, the corpuscles are accumulated by centrifuging, and if necessary decolorized, although this is not always necessary. They are then immersed in an isotonic salt solution and dyed either directly or by impregnation with a mordant solution, in three separate groups. One of these parts will be dyed red, another green, and a third blue-violet.

Corpuscles Sprayed on Base

They are next mixed in varying proportions, according to the type of light required in taking the photograph, such proportions being, for example, three red elements, four green elements and two blue-violet elements.

The corpuscle mixture is then deposited on the film stock by spraying,

and, after drying, a thin layer of formaldehyde and albumen is overlaid as a protective, sealing and preserving coat.

Over this the panchromatic emulsion is laid, and the film is exposed in the camera with the celluloid side toward the lens, thus causing the light to pass through the colored corpuscles, as through millions of tiny filters, before reaching the sensitive emulsion.

Owing to the extremely transparent quality of the dyed corpuscles, the negative film, according to Mr. Pinker, requires only an exposure double that of the emulsion alone.

The exposed film is then developed

in ordinary negative solutions and produces, of course, a color negative; that is, the film is negative as far as the emulsion is concerned and complementary in color range to the original.

Prints may be made directly from the negative by means of the optical printer upon stock sensitized in a manner similar to that hitherto described.

The negative film produced with the blood corpuscle mosaic will have a light transmission value of approximately 34 per cent and the positive a transmission of approximately 40 per cent.

These transmission values are not far from those of ordinary black and white films, and as a consequence in the projection of these color prints little excess light is necessary.

Color Development Company is at present continuing research on the spectral quality of blood corpuscle dyes. After these tests are completed the new blood corpuscle mosaic will be ready for the raw stock manufacturer.

CALL NINTH SESSION ON VISUAL EDUCATION

THE ninth session of the National Conference on Visual Education and Film Exhibition (De Vry Foundation) will be held in Chicago June 19 to 22 inclusive. The gatherings will be as they were last year in the Francis W. Parker School, 330 Webster avenue, opposite Lincoln Park, and will as at that time be under the direction of A. P. Hollis.

Among those who will appear are Dr. James E. Bliss of Western Reserve University, who has done some remarkable work in color, not only in dentistry, but in Athletics and other school subjects; Professor L. W. Cochran, of Iowa University, who will exhibit and explain Professor Barnes' motion studies which have excited intense interest.

A. P. Heflin of the Lane Technical High School, Chicago, will exhibit some of the school's own films and describe their production and use. Dr. I. E. Deer, of the MPPDA, who has done such fine work with the "Secret of Success" character building films released by that organization.

Mrs. Richard M. McClure, president of the Better Films Council of Chicagoland, whose inspirational addresses have shown a new way to culture through motion pictures.

William G. Hart, director of visual education in the Harvey H. Lowrey School of the Fordson Board of Education, Dearborn, Mich., will exhibit and describe some original film production in public school relations. Mrs. Charles Joe Moore, Director of Visual Instruction Bureau, University of Texas, Austin, Texas, will tell of the outstanding work of her department in Texas schools.

Miss Kathryn Troy will be welcomed again for her unique films on marionettes. William L. Zeller, cinematographer of wild birds in color, will have new marvels of his skill, patience and imagination to show. E. W. Cooley, cinematographer, Wauwatosa, Wis., will show his Indian pictures, also in color. Walter L. Grabski, Cleveland, will put on travel films in color. DeForest Training, Inc. will demonstrate apparatus used in teaching Television.

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LET'S EDIT A TRAVEL FILM

By ORMAL I. SPRUNGMAN

16mm frame enlargements by Sprungman from Dan Billman Jr.'s color movie, "Black Cousins." Titles filmed by Park Cine Laboratory.



Enlarged from 16mm color movie frame.

Dan Billman Jr. of Minneapolis, whose recent travelog, "Black Cousins," is described in this article, is shown filming from deck on a West Indies-bound steamer. A member of the Minneapolis Cine Club, Billman increases the effectiveness of his screenings by adding music and sound effects.

BEFORE me on my editing table lie seventeen rolls of freshly exposed Kodachrome, representing the latest shooting efforts of one Dan Billman Jr. of Minneapolis, just back from a month's jaunt to the West Indies by water and air. My job is to boil down the footage to three 400-foot reels, whip up continuity, create readable titles, and put everything back together again so that all scenes will be right side up.

Frankly, I enjoy this polite form of butchery, for nothing gives me greater pleasure than to rip cold-bloodedly from my own films those sequences which are a bit off in exposure or focus. I have learned, after more than a decade of filming, that poor stuff has no place even in amateur-made movies.

Dan is typical of many moviemakers. He likes to film his travels. His cinematic hobby provides a pleasant escape from his more or less morbid work as a mortician. Unlike most button pushers, Dan shoots his footage from one of those cumbersome, finger-pinching contraptions known as a tripod, and he has the knack of spotting nice picture possibilities and framing his scenics. He uses a meter.

A winter ago, after having exposed an experimental roll or two of Kodachrome, Dan and his bride hied off to the Pacific's paradise, returning later with "Hawaiian Honeymoon," a 1200-foot color feature, synchronized with sound and music that well nigh amazed the countless audiences which viewed it.

Sees Hawaii as Ideal

Spurred on by good shooting, the movie pair recently rode down to Miami, sailed off to Haiti, spent a week at Kingston, and then flew back to the home soil via Havana.

Dan, who sits here watching me crip-ple and maim his latest celluloid offspring, assures me that he is disgusted with the results and disappointed with himself. He believes that the Indies do not offer as many picture possibilities as Hawaii.

He claims that he tramped the native streets daily with camera and shouldered tripod, invaded the market places in search of colorful sidelights, spent a goodly boodle on tips to lens-staring black-skinned subjects, and was finally forced to hire native policemen with whips as bodyguards to protect himself and camera.

He says that he searched the islands for a native burial, finally contenting himself with a shot of a moving hearse. He spent days big game fishing and only came off with one little perch.

Everything sounds hopeless. But I know better.

We have just finished running all 17 reels through twice, and I can see good possibilities after the dead timber has been cleared away. The first time through was merely to study the general layout. On second projection, a written record was made of each scene, one page being devoted to each numbered reel.

Ready to Mutilate

With reels, scene record sheets, cement pot and scissors before us, we're ready to mutilate. We glance at the scene outline for Reel 1. It reads verbatim like this:

MS Dan and wife leaving home
CU pair—heads only
LS front view of "Hiawatha"
in railway station
MS angle shot of train funnel
CUT birds
LS telephoto shot of flying fish

CUT 1st CU steamer whistle blowing

LS bow of SS North Star showing name

OK 2nd whistle blowing

CUT LS 2 people on deck

OK closer view same people pointing over rail

MS Dan with movie camera on tripod, shooting

MS Wife clowning at wheel

MS Ship captain and others

CU skipper at wheel

LS passengers seated on deck

CUT dark steamer whistle (OK for later use)

CUT light sunset from deck

OK remaining sunsets

LS means long shot, MS medium shot, CU closeup, and CUT throw out.

It looks like mutiny, but something must be done about that introduction. The train shots are too short, and the departure from home too abrupt. But let's bother about that later.

Snipping and pasting, we go through the first reel, permanently discarding the badly exposed CUT stuff, and slipping on to a separate personal reel other scenes too good to throw away, yet not relating to the current theme.

Getting Picture Started

The next reel shows market scenes in Haiti, native women smoking, a public cemetery, babies crying, a sunset from the ship, immigration officials coming aboard at Kingston, the Myrtle Bank Hotel, and orchids in closeup. This hodgepodge is followed by more flowers, more babies, more market scenes, long shots of Jamaica's high country and closeups of native dances.

Apparently, our three 400-foot reels might develop like this:

(Continued on Page 208)

BLACK COUSINS

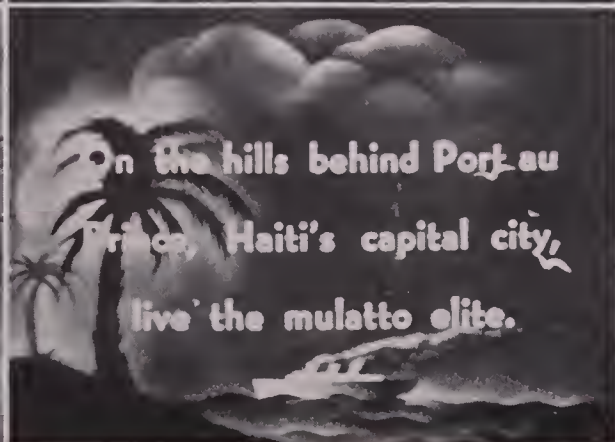
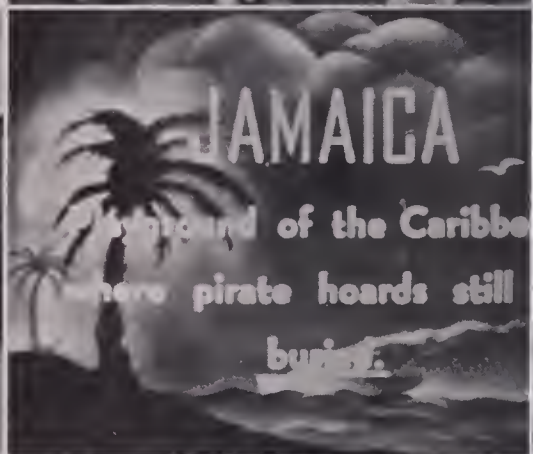


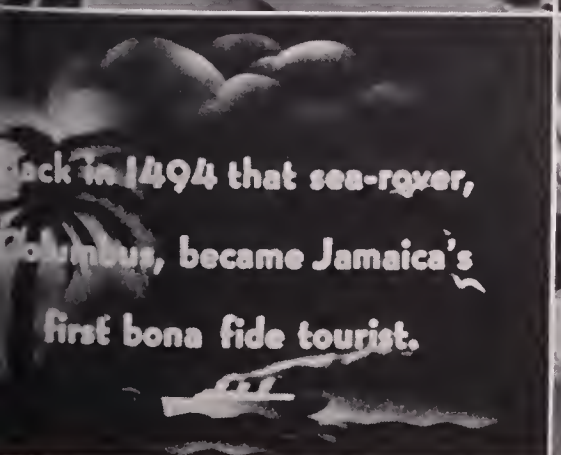
Photography by
Mr. & Mrs. Dan Billman, Jr.
Editing, Titling &
Special Effects by
Orrin I. Sprungman

THESE two pages of striking 16mm. color frame enlargements are from Dan Billman Junior's West Indies film, "Black Cousins," described in the accompanying article. All frames were enlarged by O. I. Sprungman, writer of the story.



Even our Eskimo cousins
Aren't crazy about snow;
They'd sooner mush south
Where the hurricanes blow.





(Continued from Page 205)

Reel 1: Departure from Minneapolis, steamer scenes, arrival in Haiti and Jamaica, flower and river shots, native dance on beach.

Reel 2: Kingston traffic views, Coronation Market, mountain scenery, sailboating, fishing, coastal scenery, turtle-bird-dog closeups, more dances, sunset.

Reel 3: Departure from Kingston by plane, arrival in and departure from Cuba, arriving in Miami, sailboat races, Finis.

Such an arrangement of course is never final. In fact, scenes are often juggled and rejuggled until the best combination is created. In editing features running two or more reels, it is always advisable to work in the most striking scenes toward the close of each reel.

Psychologically, this leaves a desirable impression upon the audience during reel changing. Since color sunsets are often awe-inspiring, the tendency is to end amateur reels with a brilliant spectacle of this sort. This usually denotes lazy editing, however, and the trite effect should be avoided wherever possible.

Allowance for Titles

Since all three reels are pretty well loaded, we must not forget to allow for around 100 feet of titles. This calls for more scene cutting and juggling. Suppose we remove the lengthy Haiti market scenes from Reel 1 and combine the best shots with the Jamaica market scenes on Reel 2. Only an expert will know the difference. To avoid overloading Reel 2, transfer the mountain scenery and the turtle-bird-dog closeups to Reel 1, and slip the sailboating, fishing and coastal scenery stuff into Reel 3.

But how shall we end our first reel?

The native dance on the beach, sound synchronized with weird music and the beat of tom-toms looks like a natural. But the jump from drums to the "End of Part One" title is too abrupt. We must bridge the gap, and in so doing we break our first rule. We call for a sunset.

In this case, however, the sundown views are cut in not entirely for their beauty but simply to aid synchronization. There are occasional quick shots of hands beating drums and closeups of the dancers themselves.

Drumbeating alone winds up the sequence, and while the palm-fringed sunset scenes fade into view the sound of the tom-toms diminishes slowly in the background, finally fading out with the closing title.

Reel 2 moves less rapidly, featuring street scenes, parading native troops and market stuff, enlivened by a nice sequence of a barefooted native youth tapdancing on pebbly pavement with

pop bottle caps held between his toes. This is followed by a colorful Market Dance and a native skit which called for film censoring in spots.

Lone Fish Makes Fun

Reel 3 opens with beautiful coastal scenery around Port Maria and striking bathing beach scenes. Next is an angle shot of the top of a sail silhouetted against the sky, then a drop to water level for the sailboating sequence.

Hence, the transition from land to water is complete without titles. The gap between the sailing and fishing boat scenes is handled by cutting in a short closeup of the latter's pilot wheel, continuing with over-the-bow shots of a rolling sea.

The preliminary fishing scenes were well filmed, and, despite the fact that no whoppers were caught, the closeup of the lone fish at the end of the sequence usually pulls a grin from each audience.

Prior to making the flight from Kingston to Miami, Cameraman Billman haunted the airport, securing the necessary sign and building closeups and the actual landing and takeoff on water of an identical plane.

Instead of shooting baldly out across open water, he set up his tripod some distance back from shore, with a few blushing poinsettias bobbing around in the foreground while the plane whisked over the wavy blue for a perfect landing. Then came refueling, baggage-wheeling, and taking on new passengers, and finally the takeoff filmed against a cloud-broken sky.

On the day of the Billmans' departure it was only necessary to show the couple boarding the plane. The balance of the shots could then be taken through the window inside the cab, with spray streaking down over the glass to add an unusual effect. Ocean scenics framed down through lazily drifting clouds or high above the billowy floor provided unique beauty.

Shooting Own Plane's Shadow

Upon landing at Cienfuegos, Cuba, he caught the shadow of his plane on the ground and kept his camera purring steadily as the menacing shadow grew larger and larger. There are a few shots about Havana, then another takeoff, more sea-aerial stuff, and finally the landing at Miami, with a rowboat riding out to rope the great bird shoreward. The film closes with views of a sailboat race outside of Miami.

Neither of us cared for the ending. The race seemed out of place. The racing shots were jerked, one or two of them fitting nicely in the Kingston sailboating scenes at the start of the reel.

But this gave rise to another problem. You can't bring a plane down on water, flash on *The End*, and tell folks to go home. The finale needed further smoothing, which was provided simply by adding another windup title.

When the plane taxis up and the small boat comes out, we faded in slowly on a title, already familiar in professional films: *We're sorry, folks, but this is where you came in*—and then dissolved into *The End* title.

Compromising on Title

Selecting a main title called for some head-scratching. Dan wanted something with the word *black* in it. He suggested *Black Cousins*. A bit trite, though not bad. I overworked my brain on these:

Indies, Ahoy!	Southward and
Indies Interlude	Black
Black Indies	Black Antilles
Black Country	Antilles Visit
	Hurricane Islands

We compromised on "Black Cousins."

Park Cine Laboratory, a New York professional titling firm, offered a fitting West Indies background showing ship, waves and palms, and Park Cine did the shooting.

To secure ideas for title wording, travel magazines, guide books and steamship folders were consulted, and these often gave birth to such eye-blinking creations as—

On the hills behind Port au Prince, Haiti's capital city, live the mulatto elite.

(or)

JAMAICA

Playground of the Caribbean, where pirate hoards still lie buried.

Instead of running a label title, probably reading—"Jamaica's Roads Are Awful"—a few facts and figures were packed in to produce:

Fifty miles wide and three times as long, rugged Jamaica has over 4,000 miles of good and bad roads.

This title not only hints of the scenes to follow, but also reveals the size of the island and the extent of its highways. Its usefulness is obvious.

Establishing Contrast

Except for the introduction, the three reeler was almost complete. It needed padding, something contrasty. Well, let's see. We have Black Cousins and—hmm!—Eskimo Cousins.

Eskimos live in igloos, and igloos are made of snow. Well, why not show a table-top igloo, with a few travel folders being snowed under? The introductory title could read something like this:

Even our Eskimo cousins
Aren't crazy about snow;
They'd sooner mush south
Where the hurricanes blow.

A couple rolls of cotton batting were spread over a card table top, some of
(Continued on Page 231)



How About YOUR Skylines?

TODAY, it's easy . . . and economical . . . to make movies that are just as outstanding as New York's skyline.

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while both have wide latitude and their fine grain permits large projection without loss of detail.

Try these two films this season—to insure clear, sparkling screen results. Both are available in 100-foot rolls at \$4.50 and in 50-foot rolls at \$2.75, including processing and return postage.

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16mm. PANCHROMATIC REVERSIBLE FILM



Making Stereoscopic 8mm. Pictures in Color

By JACK V. WOOD, S.A.C.



Dr. Ghrist demonstrates his 8mm stereo cameras. The two machines are kept in synchronization by a shaft in the mounting base with a gear on each end which meshes with gears in the camera motor.

STEREOSCOPIC color motion pictures in 8mm. were publicly demonstrated April 11 to the Glendale Lens and Shutter Club by Dr. O. E. Ghrist, eye specialist, and one of the club's members. So far as is known, this is the first time an amateur cinematographer has successfully presented 8mm. color stereoscopic pictures to an audience.

Dr. Ghrist uses the same polarized light principles that have been successfully used both by amateur and professional in the 16mm. and 35mm. fields, but it is believed the 8mm. adaptation is the most successful yet from the standpoint of simplicity, cost of equipment, and cost of producing stereoscopic movies.

In order to produce the stereo effect in a picture it is necessary to take two photographs of the subject, each from a different angle, and approximately in the same relation as the two eyes see the picture. In reproducing the stereo, or third dimension, each eye must see only one picture, and not the other.

In projection this is accomplished by using two projectors in synchronization, with each image being projected through a pola screen, one arranged vertical and the other horizontal.

The person viewing the picture wears a pair of glasses fitted with similar pola screens, and thus using the polarized light principle, each eye sees only one image, different from the other, in the same relation as the person would see the actual scene that was stereo photographed.

How It Is Done

Two Cine-Kodak eights, Model 20, are used by Dr. Ghrist in taking his stereo pictures. The two cameras are mounted on a common base, far enough apart for access in loading and winding the two machines. Through the base runs a shaft, to which a cog is

rigidly attached to each end. This cog wheel on each end protrudes out of the base far enough to fit in mesh with a large cog wheel found as part of the motor mechanism in this particular model camera.

An opening has been cut into the bottom of the case of each camera in order to afford access to the winding gear and subsequent connection with the external gear and shaft.

The cameras are then mounted by means of their tripod threads to the base, with each winding gear in mesh with the external gear and shaft. The object is complete synchronization of the two cameras.

For additional rigidity a removable brace is attached to the back of the two cameras which insures the cameras will remain always in alignment with each other.

One great advantage of this set-up is that either camera may be quickly removed and used for making regular pictures. Both mounted together, the base then may be attached to a tripod, or the two machines and base together are still light enough for easy hand-held operation.

Two Pictures on One Screen

Since the two cameras are locked in mechanical sync, one starting button is left permanently on, and the two cameras started and stopped by the use of the other single control button.

The use of the pola screens has nothing to do with the camera work. It is only in the projection process that the polarized light principle is utilized. Either black and white or color pictures may be made, and filters employ the same use as in single camera photography. With proper adaptation the same special effects are possible, as well as additional ones employing the stereo effect.

In projection Dr. Ghrist employs two 500-watt Eastman projectors locked in

synchronization by means of a shaft and universal joint. Again it is a simple matter to disconnect the shafts and use one projector alone for regular operation.

In front of the lens of the right hand projector (facing the screen) Dr. Ghrist has mounted a pola screen so that its axis of light filtration is on a horizontal plane.

In front of the left projector is an identical screen excepting that it is mounted so that its axis of light filtration is on a vertical plane. The two films are projected on the same screen on top of each other, in rough registration. Since the films are the same scenes at different angles, exact registration is impossible, and it is not necessary.

The audience is given individual pairs of glasses, each pair having a vertical plane pola screen in the left lens and a horizontal plane pola screen in the right lens, corresponding to the two screens in front of the synchronous projectors.

Thus the left eye sees only the image of the left projector, while the right eye sees only the image of the right projector. This modern version of the old fashioned stereoscope results in third dimension motion pictures.

The two films must run in exact synchronization. This means they must be photographed, edited, and threaded in exact relation to each other. The problems involved are much the same as that of the professional 35mm. cutter with his separate picture and sound tracks.

Dr. Ghrist found that the easiest

way to check synchronization after the two films come back from processing is to go back to the end of a scene, match the two ends exactly, and then wind forward again and mark the film for sync at the beginning of the scene. This editing process can be simplified further by building a sync machine similar to that employed by 35mm. sound film editors.

Watch Your Beginning

Since the cameras stop exactly together, the use of the visual slate-clapper of 35mm. sound for synchronization is not necessary.

Another editing item must be watched closely, and that is that the left and right images do not get mixed. The beginning of each reel is marked left and right, and each reel has a sync or "start mark" corresponding to a reference point on the projectors.

The film is threaded with the start marks at the exact reference point, and the projectors started in sync. This, again, is substantially the same problem, solved much the same way, as the 35mm. sound editor finds with his work prints of picture and sound.

Dr. Ghrist found that much experimenting was necessary in order to find the best screen for this work. The screen must be able to reflect polarized light, and since this light is most easily reflected from a metallic surface, a silver screen was used.

Applied in One Direction

In painting the screen, the metallic silver paint was applied with an air brush, moving always in the same direction. That is, the paint was not sprayed on left to right and then right back to left. It has to be applied in one direction only for best screening results. A beaded screen is of no use in this type of work.

Since the pola screens allow only polarized light to pass through them, they naturally act as fairly strong neutral density filters. For this reason

it is almost necessary to use the most powerful projectors available in order to offset the neutral density effect and still project an acceptably large screen image.

In the demonstration at the Glendale Lens and Shutter Club the pictures were screened about 30 by 40 inches, large enough to accommodate the thirty-five persons present, and with enough brilliance to offset the effect of the pola screens.

The illusion of depth is excellent, and the picture quality is as good as that of the regular two dimension motion picture. Many times the stereo effect made trees and objects appear in the middle of the room, rather than coming from a flat motion picture screen some distance back of where the object appeared to be located.

May Use One Film

For those who have seen Pete Smith's Audiospek short subjects, the motion picture stereo effect is nothing new. But while the Pete Smith commercial variety is viewed through red and green gelatin filters, the polarized light filters of Dr. Ghrist's amateur outfit produces black and white pictures in actual black and white, and color pictures in the same natural color as one sees the regular two dimensional film.

Were Dr. Ghrist adapting stereo movies to commercial pictures he believes he would experiment along a slightly different vein. Instead of using two cameras, he believes it would be possible to take both images on the same film, one above the other, much on

Left, Dr. Ghrist wearing the pola screen glasses necessary to stereoscopic motion pictures. Beside him are the two projectors used. The pola screens may be seen taped in front of each projection lens. Right, the synchronized projectors used in 8mm stereoscopic pictures. The pola screens are shown immediately in front of each projection lens, held by tape. With experimentation completed the screens will be permanently mounted.

the same principle as the Leica does with stereo still pictures.

On projection, the pictures might be alternated by means of a pola screen shutter, first projecting one frame in the vertical plane, the following, and in reality the complementary frame, in the horizontal plane.

Taking and projecting at 32 frames, each picture would appear 16 times each second, the old silent film speed. Naturally the sound synchronization would have to be stepped up to keep in line with the fast traveling stereo film.

Dr. Ghrist sees little or no possibility of third dimension films under any method where the individual members of the audience do not wear special viewing glasses.

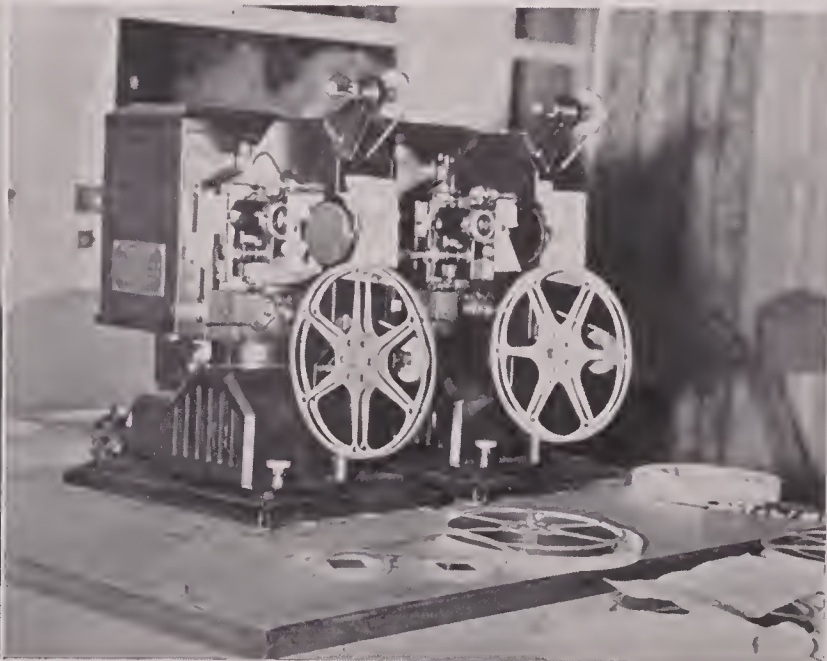
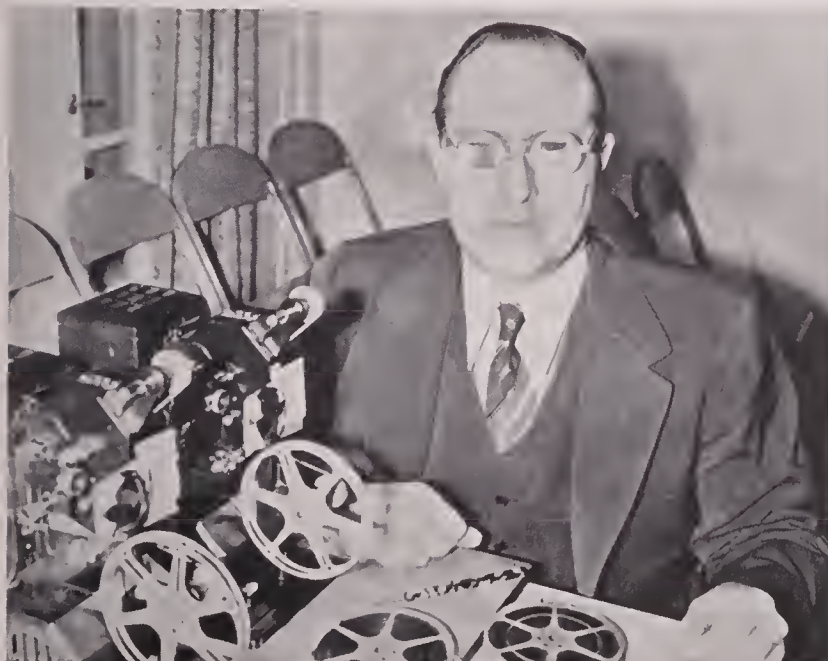
Since Dr. Ghrist is a practicing eye physician, he is in a position to lend weight to this contention.

There is a law of optics involved in the stereo process that requires each eye to see a different image, and never has the stereo effect been produced without some mechanical or optical device close to the eye itself forcing this individual eye-view requirement.

Agfa Lowers Camera Prices

Reflecting the spreading interest in picture taking during the past year is the announcement of important price reductions on Agfa cameras. Made possible by the growing demand for Agfa cameras in recent months, this price reduction should further influence the widening of the photographic field and bringing the enjoyment of picture-taking to those who previously felt they couldn't afford to own a good camera.

No features in the design or construction of these amateur cameras made by Agfa Ansco Corporation have been changed or cheapened to enable these price reductions. In fact, many of the current models incorporate new improvements and refinements.



RULING FAVORITES

EASTMAN'S three new motion picture negative films have quickly established themselves as the favorites of the industry. *Plus-X* for general studio work . . . *Super-XX* for all difficult exposures . . . fine-grained *Background-X* for backgrounds and all-round exterior work. Each makes its special contribution, and all have that typical reliability closely identified with Eastman films. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN *Plus-X* . . .
Super-XX* . . . *Background-X

FAST FILMS AND COLOR HAVE MADE BIG LIGHT CHANGES

By GENE KORNMANN

*Twentieth Century-Fox
Portrait Gallery*

COMMERCIAL and portrait photographers frequently comment, when visiting our gallery at the Twentieth Century-Fox lot in Hollywood, on the lighting equipment. Fast films and color have brought about revolutionary changes in lights.

The equipment we are using today is outstanding and of interest not only to those professionals who photograph to live but also to those amateurs who live to photograph.

For more than twenty years I have been a "still photographer" in Hollywood, and as far back as my experience goes "Lights" always have been the big problem.

Lighting engineers and optical experts will no doubt continue to improve lights, but since the introduction of fast films the change has been so startling that we "old timers" wonder just how the present units could possibly be improved.

The back-stage shot accompanying this article shows a typical portrait set-up in our gallery. Five Bardwell & McAlister 500-750 Watt Baby Keg-Lites are used. The light in the foreground is equipped with a 500 watt, 100 volt, T20 Mazda globe and the B&M Foco Spot attachment.

The four other lights are equipped with the standard 500 watt, 120 volt, T20 Mazda globes. A total of 2500 watts furnishes all the light necessary.

Placing the Lamps

The placing of the lamps is easily explained. The key light is mounted high and almost full-face on the subject, the two back lights are used to bring out highlights on hair and shoulders, the light in the right foreground

is focused at a medium flood to fill in the shadows and round out the features; the fifth light is equipped with Foco Spot, which in this shot is used only for the circle of light on the background.

You will notice only the key light is diffused. I have found a flesh colored gelatine diffuser to be the most satisfactory in conjunction with the fast films. In many cases, however, no diffuser is necessary.

The Foco Spot is in reality the most important piece of lighting equipment in our studios. It is simply an optical



*Nancy Kelly, Twentieth Century-Fox
player.*

Photo by Gene Kornmann

attachment for the Baby Keg-Lite which replaces the old arc spot, giving us sharp shadows, either round or rectangular, silhouettes, background designs and highlighting.

In fact, this new piece of photographic machinery has so many uses that an entire article could be devoted to it.

It takes time to light properly any photographic subject, and time is money even in a motion picture portrait gallery. Every week I personally expose an average of 500 negatives, making a total of about 25,000 each year.

Tough Eggs to Please

Every print released by our studio must be approved by at least three persons, the star, the head of the publicity department and then the releasing publicity man.

For release to newspapers, snappy commercial prints with strong contrasts and sharp shadows suitable for cuts are required. The magazines insist on artistic poses, soft shadows, silhouettes, special background or fashion effects.

Last, but not least, are prints for trade magazines and posters with light backgrounds that may be recut and used in composite groups or superimposed.

All prints must be good photographs, not just pictures.

You will see why lights are such an important part of our equipment and why we enthuse over those now in use. You may ask "What has become of the arcs, big heavy sunspots and overhead floods?" I am glad to tell you that they have been completely eliminated as far as Twentieth Century-Fox portrait gallery is concerned.

For the new fast films and Kodachrome we find these new lights ideal. We have made many excellent portraits using only one light. In no case do we use more than four plus one equipped with the Foco Spot attachment.

These lights can be focused instantaneously by a slight pressure on the arm which protrudes both front and rear. Their range is from a 4 degree spot to a 44 degree flood—control which we never dreamed of two years ago.

Showing Actual Set-Up

Another great time-saver is the mobility of the Baby Kegs. They weigh only 28 pounds complete with double riser stands, which at top put your light center nine feet from the floor. Generous rubber casters and high center stands add to the quick and silent placing in any position.

The portrait of Nancy Kelly, Twentieth Century-Fox player, which accompanies this story, was made with the light set-up as shown on the back-stage shot. Exposure was 1/25 of a second with aperture f/8. This picture using the old lighting technique would have been most difficult. Here is a natural smile caught as we were visiting; no trace of light consciousness

and yet the shadows and highlights would do credit to an arc.

The evenness and intensity of these new lights is of course far more important than the time saving points I have mentioned.

Remember the old days of Kleig Eyes?

Remember how many times the arcs sputtered and died just as you were set? Hot spots and dark rings always seemed to be in the wrong places, and so many times it took the negative to show them up.

All of these troubles have vanished with us. Today we have lights that are "optically correct" with an even white field from spot to flood.

We can change our light values instantly, compare and study shadows in a fraction of the time formerly required.

In Home—Then and Now

On many occasions we are required to make pictures in a star's house. These "home portrait" jobs often presented a real problem. Arcs are out of the question. The moving of heavy sun spots and floods over expensive

oriental rugs, up and down stairs, and in a completely furnished room meant trouble for the camera man and crew, to say nothing of the inconvenience and cost.

Using our new equipment we can operate in any home without fear of breaking furniture or bric-a-brac. With many stars the first "home portrait" session was the last one (at their request).

Yes, we are making many colored portraits in the Twentieth Century-Fox portrait gallery. We have had the best results with Kodachrome and our critics tell us we are producing some excellent work.

How many times have you, as a photographer, looked into the ground glass and thought "If I could only capture the picture I see there!" Kodachrome gives you that opportunity.

Some of my friends would make color photography a dark, deep, mystic art, but to me it is more simple than black

and white if I will analyze the colors as they appear on the ground glass.

Kodachrome will reproduce the colors just as they are, just as I see them through my own eyes. Each color has a value and I try to light each one to bring out that quality which my eyes tell me is correct and natural.

In all my work, whether black and white or Kodachrome, I use a Weston light meter with a trick collapsible shade of my own manufacture.

After many trials and plenty of errors, I have found that the manufacturers of films know more about correct exposure than I do. When it comes to exposure, I follow their instructions and trust the Weston.

Every new achievement and invention in the photographic field opens up avenues for countless other ideas seeking perfection. Some times we fight new ideas and hesitate to adopt or even try them.

Personally my ego has been flattened so many times that I try to believe everything I hear, see or read, unless I know from actual experience that it is not true or that it cannot be done.

Gene Kornmann, with his five lights, photographs Nancy Kelly at the Twentieth Century-Fox portrait gallery.

Photo by Frank Powolny



Practical Gadgets Expedite Camera Work

By GREGG TOLAND, A.S.C.



Toland's outfit at work. Note "filler" lights on front of camera, hydraulic-hoist rolling tripod, and remote-control focusing dial in hands of Assistant Edward Garvin, left foreground.

MODERN studio cinematographic equipment has, on the whole, reached a stage of excellent technical efficiency. But no instruments turned out on a production basis can fulfill all the desires of so individual a group of users as are the cinematographers, and at the same time conform to the reasonable restrictions of cost.

Accordingly, practically every cinematographer and studio in the industry has added some refinements or accessories the better to adapt commercial equipment to individual conditions. In some cases, where such gadgets correct widely felt inconveniences, they often spread beyond the confines of the unit or studio of their origin, and are applied in any studio where they seem useful.

A notable example of this is of course the now almost industry-wide practice of fitting a small public address system to conventional blimped cameras, so that the cinematographer can, by means of a convenient microphone inside the blimp, give instructions to cast and crew without having to take his eye from the camera's focusing screen.

The first use of the device is generally held to have been made by William Daniels, A.S.C., at the Metro-

Goldwyn-Mayer studio; but today there is scarcely a studio in which the "peep-ing mike" is not known and used.

Goldwyn Cooperates

Opportunities for the development of these practical gadgets naturally varies, according to studio and production conditions. In the writer's case, the relatively limited production of the Samuel Goldwyn unit, together with Mr. Goldwyn's cooperative attitude toward anything that will make his productions better, gives frequent opportunities for developing any idea which seems to give promise of improving or facilitating camerawork.

Therefore during the past few months the writer and his crew have been able to put into use a number of accessories, of minor importance individually, perhaps, which have together proved worthwhile production conveniences.

Some time ago this journal published a description of the hydraulically-operated rolling tripod developed for our Mitchell "BNC" sound camera. Since this self-blimped camera eliminates the extra bulk and weight of the usual blimp, a much lighter construction is possible in the camera carriage.

The camera is supported on a triple-

extension hydraulic lift, and braced by three telescopic, tubular braces fitted with conventional locking screws.

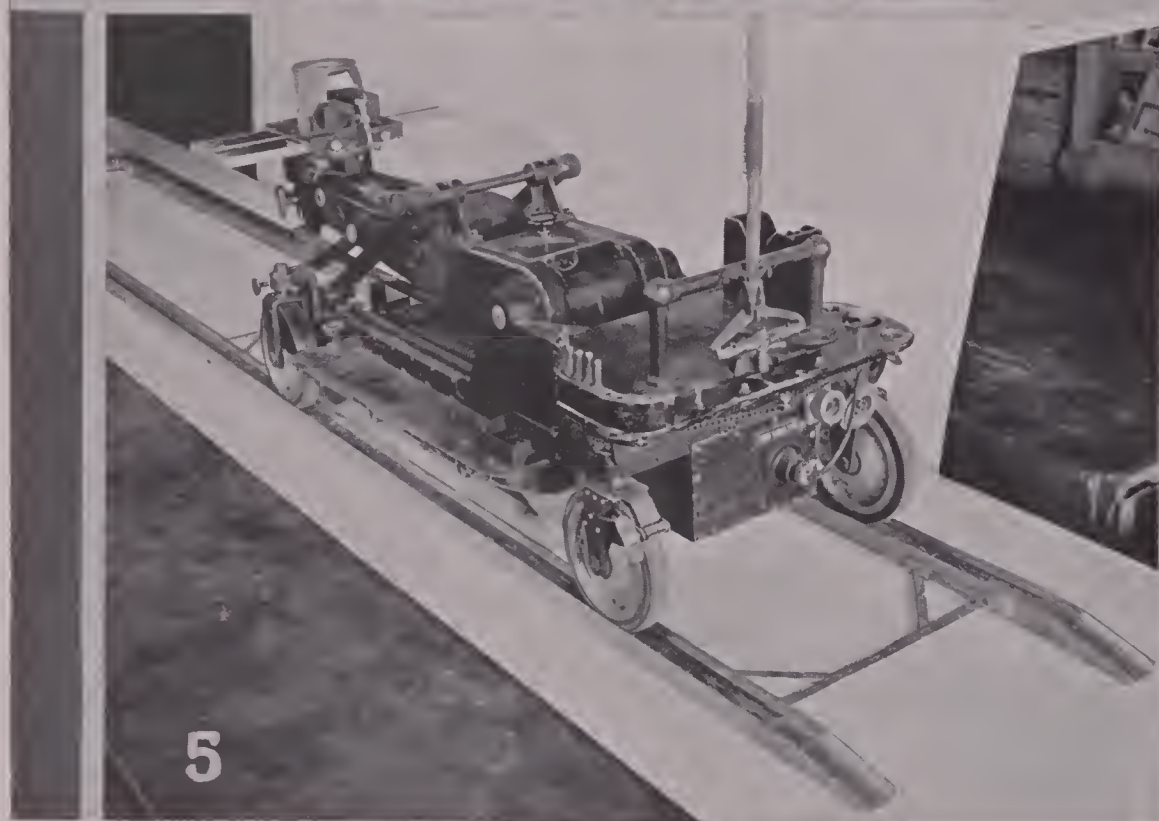
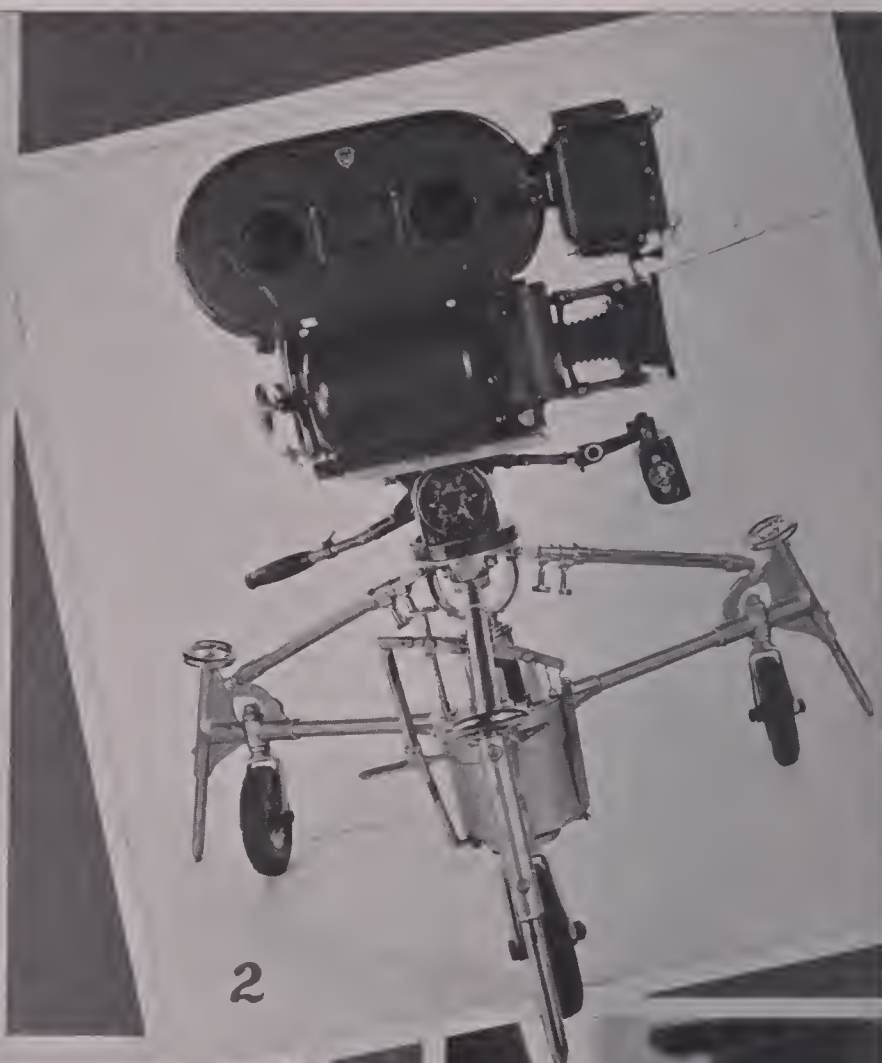
The camera is raised from a lowermost position with the lens considerably below waist-high to a maximum elevation of over six feet by means of a conveniently operated foot pump. It is lowered by turning a handy release valve. Thus a single unit replaces both the standard and "baby" tripod and fills every purpose except making shots where a dolly or crane is necessary.

When we made "Goldwyn Follies" last year the remote control focusing feature of the Technicolor cameras impressed us all. We have recently adapted it to monochrome use on our "BNC" and have found it equally useful. In making the adaptation we have, we believe, added a couple of minor refinements which make the device even more practical.

Operating Principle Simple

The operating principle of the remote control focuser is simple, as it is based on the action of a pair of selsyn motors. One of these acts as a generator, the second as a motor.

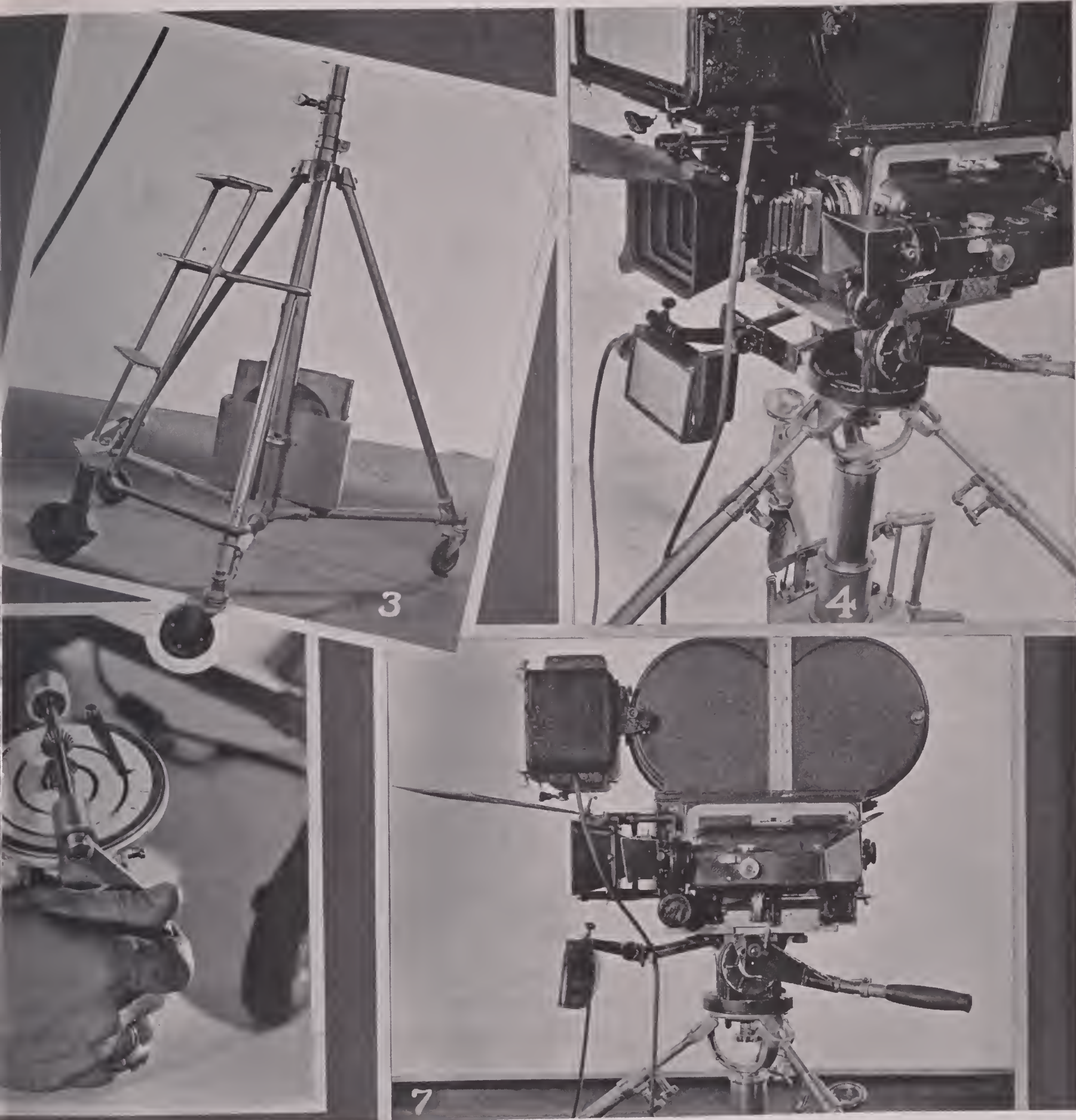
When the armature of the generator



SOME OF TOLAND'S

(1) Actor's-eye view of Toland's camera. Note "filler" lights above and below lens. Cylindrical housing at left holds selsyn focusing motor. (2) Camera in low position on Toland's hydraulic-hoist tripod. Note position of "filler" lamps is

reversed in comparison to Fig. 1, with small unit below lens, large one above. (3) Auxiliary step ladder hung on lamp pedestal. Note supplementary wheel which braces and locks lamp stand. (4) Closeup view of mounting of auxiliary



TOLAND'S GADGETS

"filler" lights. Note also sunshade on finder. (5) Velocitor dolly on Toland's duralumin track. Note also sliding bed for supporting tilthead. (6) Close view of the controller and generator of the remote control focusing system. Note

that operator's hand is clear of dial at all times. Button below dial controls dual-speed gearing. (7) Toland's auxiliary "filler" lights mounted on Mitchell "BNC" camera. Note sunshades over lens and eyepiece of finder.

is rotated, it generates in its field a small current which is transmitted to the field of the motor and in turn causes the armature of the motor to move in exact synchronism.

The armature of the generator is coupled to an essentially conventional focusing dial. The armature of the motor revolves the gears which focus the camera lens. Therefore as the focusing dial—which may be at the end of a cable of any desired length—is operated, the camera lens is focused as accurately as though the assistant were manipulating the usual dial directly on the camera.

We have added to the familiar unit a pair of bevel gears and a shaft which extend the operating crank to the side of the device in such a way that, as will be seen from the illustration, the calibrations on the dial are not obscured by the operator's hand. Another addition is a dual-ratio gearing between the scale and the generator, so that the operator may have either a slow or fast movement.

In practice this device has proved very valuable. It relieves the assistant of the necessity of crowding in close to the camera—a real convenience in close quarters—and enables him to handle focus changes from any convenient vantage-point.

In making dolly and boom shots, or even in ordinary panning and tilting, it is an asset, for in such shots the operative's work is often rendered much more difficult if he has to worry about an assistant's fingers clinging to the usual focusing controls directly beneath his finder. With the selsyn remote focuser, the assistant can concentrate on focus, and the operative on camera movement, without fear of interfering with each other.

Soft Front Lighting

For a number of years cinematographers have found it desirable at times to suspend small "filler" lighting units from camera or blimp to provide a soft lighting, especially in closer shots, which will pan or travel with camera and subject.

In the past, such units have ranged from "broads" and rifles to baby spots. Today, with modern fast films and the low lighting levels that go with them, such supplementary illumination need not be of high intensity, but it is at times still needed.

For this purpose we have built up a pair of convenient little floodlighting units which may be mounted on our BNC. The larger of the two houses two 500-watt globes; the smaller, two 165-watt units.

Both are fitted with suitable, semi-permanent ground-glass diffusers, and have slides to take any additional diffusing media which may be necessary.

The heat from the globes is carried off through L-shaped ventilators which also serve as light baffles. The ventilator on the larger unit is reversible,

so that the heat may be directed to the side away from the operating crew.

The mountings for these two units are interchangeable, so that either the large or the small one can be used in either position, above the lens or below, as the scene may require. In the upper position, the unit is attached to a fitting directly on the camera's magazine-cover; in the lower position the lamp is attached to a similar fitting on extension arms attached to the tilthead of the tripod.

The mounting of the smaller unit incorporates a tilting adjustment, while the larger unit is fitted with a socket for mounting on a conventional lamp pedestal.

Counterbalance

While these lamps are light in comparison to the weight of conventional lamps, none the less mounting them on the front of the camera is sufficient to alter the normal balance of the outfit upon its tilthead.

To offset this, a special top plate has been fitted to the tripod-head. In this the usual screws holding the camera to the tripod head pass through slots, so that when the lamps are to be used the screws can be loosened, the camera slid backward to counterbalance the added weight ahead, and the screws tightened again.

During recent years we've grown accustomed to fitting auxiliary sunshades over camera lenses and blimps, and since using the BNC we've lately found it convenient to do the same for the finder.

On our camera, a small, three-sided sunshade fits over the lens of the finder, and a similar but wider one shields the finder's rear aperture. It has proved a practical convenience.

High among the minor irritations of

every-day routine is the matter of making small adjustments of lamps used on the floor, but on high-extended pedestals. The usual practice of standing on a small, sturdy box is effective, but it first requires that the box be available—which is not always the case on a busy set.

Climbing on to the lamp-pedestal itself can be dangerous due to the danger of overbalancing the lamp or inadvertently sliding it out of position on its casters.

We've developed a useful accessory for this. Constructed largely of welded tubing, it consists of a four-step ladder which can be hung quickly over the diagonal braces of the lamp-stand. A caster action wheel permits it to be moved readily with the lamp, and a toe-controlled friction type brake permits this wheel to be either locked or free as may be desired.

With this attached to the more important floor lighting units it is a simple matter to reach the lamp for making any necessary adjustments of focus, direction or diffusion.

Secure Against Accident

The supplementary wheel prevents the operator's weight from overbalancing the lamp, while the locking feature holds the lamp firmly in place, secure against accidental movement.

Ever since dollies and small cranes have come into such universal use, the problem of providing an adequately smooth, firm surface for them to roll upon has been important. Of course everyone has his own idea of what should constitute a practical dolly track; but it is generally agreed that it should be smooth, rigidly aligned, compact when not in use, and that some means should be provided for getting the heavy dolly on to the track easily and quickly.

The track we use is made of duralumin I-beams, rigidly held in place by K-shaped duralumin struts, bolted into place. These standardized sections can be fitted together to form a track of any desired length, yet when disassembled take up a minimum of space.

Lifting the dolly on to the track is eliminated by a pair of detachable ramps. These are of the same channel section as the track, but tapered downward to afford a sloping surface up which the dolly-wheels may be rolled.

Another useful accessory seen in the illustration is the sliding base for the tilthead. This has been described previously, as it has been in use some time, but it is so handy an accessory that we make extensive use of it.

It is simply an accurately made plate some two feet long, fitted with a rack into which meshes a pinion on the tilthead base.

With this, the camera may be racked to one side or the other without having to reposition the entire dolly—a considerable convenience, especially when operating in cramped quarters.

Toland Wins

GREGG TOLAND again has won photographic honors from the Hollywood Reporter's poll taken on March releases. It is the second time in ten months the Goldwyn photographer has won the decision; and it is the first time in the year the poll has been in operation any one cinematographer has been declared a two-time winner.

For March Toland was a winner by a generous margin with Goldwyn's "Wuthering Heights." The second choice was Joseph Ruttenberg and Oliver Marsh with "Ice Follies" and the third Robert De Grasse with "The Castles."

For last June the subject was Twentieth Century-Fox's "Kidnapped," product of a studio other than his home grounds. But he carried along with him his own crew, as is usual in parallel cases. These were operative cameraman, assistant gaffer, best boy and grip.



An important new film

CINÉ-KODAK

SUPER-X

(16 MM.)

SUPER-X has speed. It is fully as fast as "SS" Pan; twice as fast as ordinary Pan. It affords ample speed for movies indoors under Photofloods or outdoors from dawn to sundown.

Super-X has truly fine grain, a clean-cut quality unexcelled for large-size projection, viewed closely.

Super-X has brilliance and sparkle that add new vitality to black-and-white movies.

Super-X is fully panchromatic, responds accurately to the action of Ciné-Kodak and Wratten filters.

In short, Super-X establishes a new standard of excellence in 16 mm. black-and-white movie making. It brings to general movie making, outdoors as well as indoors, new quality, new brilliance, new beauty. Your Ciné-Kodak dealer has it.

• *Ciné-Kodak Super-X Panchromatic Safety Film is available in 200-ft. rolls at \$12; in 100-ft. rolls at \$6; in 50-ft. Magazines and Packettes at \$3.50; and in 50-ft. rolls at \$3.25. All prices include processing and return, within country of origin.*



EASTMAN KODAK COMPANY, ROCHESTER, N. Y.



In Pershing Square in Los Angeles one encounters—in spots—the atmosphere of peace. In other parts there is disharmony in varying degrees as issue is joined by those

who have won in the world's battle and by those who have lost. Photos raised from Doctor Roy Gerstenkorn's 16mm. film entitled "The Caldron," practically all telephoto.

Gerstenkorn Makes Film Record of Public Park



Well-to-do citizen pursues his benevolent hobby of feeding the pigeons, who fight to eat out of his hand and crowd over him.

WHEN Dr. Roy E. Gerstenkorn of Los Angeles decided to make a picture—a genuine documentary, as it afterward proved to be, if you please—of Pershing Square in his own town he gave no particular thought to it.

To him it was just another picture. So far as it occurred to him there was no discoverable difficulty connected with making a record of the men and women, boys and girls, dogs and pigeons, who there congregate and in one way or another pass the hours long or short as individually they may be.

The doctor has made pictures in many parts of the world, and some of these were in a manner of speaking a bit hazardous. Not that that statement would apply to the pictures he exposed in Japan, where he went into the by-ways and fraternized with the rural Japanese and filmed their customs, family and religious. But that was a couple or more years ago, when the present restrictions on photographers had not been drafted.

He has traveled through and photographed the Gorges of the Yangtse Kiang, the final six of the fifteen hundred miles from Shanghai to Chungking; for which 40 percent of the distance steamer pilots anchor at sundown because of the dangers attaching to the swift currents and narrow twists and turns.

There was that time in Africa when a full-grown lioness left her kill and wandered over to the automobile slowly coming to a stop and in which the doctor held a motion picture camera. The big animal was really curious and none too benevolent in bearing as she stopped within ten feet of the camera and stood there by the front fender as a perfectly good record was made of her—from the inside of the car. If you make inquiry the doctor will concede the incident still is quite keen in his memory. It happened to be his first closeup of a lion.

Before Doctor Gerstenkorn had finished his 400-foot reel of 16mm. film he found it necessary to make ten visits

to the square. He had worked with care, scarcely 150 feet of film being discarded.

The doctor's object was to make a record of the park as it is revealed to a casual visitor. Perhaps his foreword in the film better will describe it:

"A cross section of life in Pershing Square . . . a small green spot in the heart of Los Angeles downtown business section. Some come here to rest, read and relax; others, sad to relate, come to argue and agitate . . . Many come to solve the problems of the world . . . but have failed to solve their own."

On the doctor's first trip with tripod and camera he decided all exposures had better be made with telephoto lens. Very nearly that proved to be the case, as only in a couple of shots did he use his one-inch. He employed three, four and a half and six inch lenses.

As he worked at a distance of an average of seventy-five feet he was practically uninterrupted by those in the field of his camera. There were a couple of men, however, who spotted him. One of them "ducked" with marked suddenness and promptly made his way to the cameraman.

There he unburdened himself, making several unkind accusations, charging the doctor with being an agent of the police—and one of the unconscious subjects of the lens was a policeman on duty—charging him with being a representative of the Dies committee and again of a local newspaper which is most popular in ultra-conservative circles, and divers other affiliations.

Staggers Distances

Before starting rolling each day the doctor made it a point carefully to measure with a tape the distance between his camera and the benches or spots he intended to photograph. Then he checked results through his Kodak Special's critical focuser. The excellent photography which followed compensated him for his pains.

There was one experience, however, the doctor encountered the relation of

which may be of interest to other filmers. His camera was turning on the face of an elderly woman when he shifted focus to the face of an attractive baby in behind. Of course the elderly woman then was relegated to secondary importance and she was not in full focus.

At a recent club showing of "The Caldron" the operator did not note the shift to the baby. What he did note was the out-of-focus situation on the elderly woman, which he proceeded to correct. And at that point the focus remained for the rest of the film.

In commenting on the incident the doctor said he had been inclined to throw out the sequence, but he had liked it and had let it ride. Since then he has cut it out. He agreed perhaps the only spot to put a sequence similar would be at the finish, but the probabilities would be against it fitting in.

Audience reaction to the picture is the sort to encourage a picturemaker. Laughs come at unexpected places. Particularly is this true in some of those instances in which the park again becomes a forum for those who never miss an opportunity to listen to the sound of their own voices, to "tell the world" what's wrong with it. The earnestness of the speakers is accentuated by its transference to the screen, when it is put into pantomime and the voice is taken away.

There is drama, too, as well as near tragedy in the bearing of many of the park's visitors as they sit, perhaps alone, apparently looking into the camera but really into vacancy, or reading a letter or a newspaper.

The well-to-do and the ne'er do wells are both represented. Where one of the former feeds the pigeons the latter as they swarm over the body of their benefactor are the objects of human eyes following them with more than casual, perhaps hungry, interest.

TWO KODACHROME FILMS MOUNTED FREE BY KODAK

AFTER April 1, 1939, the Eastman Kodak Company announced all miniature camera Kodachrome Film K828 and K135 sent in for processing will be returned in the form of individual transparencies, ready-mounted for immediate projection and with no added charge.

Kodak's new service includes lacquering the emulsion side of each roll of film after processing, as a protection against finger marks; cutting the frames apart and mounting each frame in a serially numbered Kodaslide Ready Mount.

These new Ready Mounts are made of tough, smooth-finish, specially prepared pressboard. Far lighter in weight than the conventional 2 by 2 inch glass slide, they are also much thinner, so that more can be stored or carried in an equivalent space. Unlike glass slides, they do not crack or shatter if dropped, and their toughness is such as to withstand all reasonable handling.

When returned to the sender Kodaslide Ready Mounts will be numbered consecutively to correspond to the picture sequence on the film roll—1 to 18 for an 18-exposure roll of No. K135 Kodachrome and 1 to 8 for an 8-exposure roll exposed in No. K828 "Kodak Bantam" size. The surface of the pressboard mount is such that additional data—as exposure notes or classification numbers—can be added by the owner.

Kodachrome Film users who wish their films returned unmounted and in complete rolls, as in the past, may indicate this desire by clipping a corner of the address tag when they send in film for processing after April 1. Since such clipping corresponds to a message, packages with clipped tags require first-class postage.

For the convenience of those who wish to mount their own transparencies, "blank" Kodaslide Ready Mounts will be marketed after April 1 in the No. 828 and No. 135 sizes. The film transparency is easily slipped into the mount and the mounting completed in a few seconds. These "blank" mounts are also convenient for the black and white film positives which many miniature camera users now make to supplement their color films.

With the announcement of its new mounting service, a major development in the field of home projection, the Eastman Kodak Company couples announcement of a new, compact, highly efficient and moderately priced slide projector—the Kodaslide Projector, Model 2—ideally adapted to showing 2 by 2 inch Kodachrome or black and white slides, either in the new ready mount form or glass mounted.

For the owners of older projectors, whose slide carriers or slots are not already adapted to the new, thinner

slide mounting, Kodak also announces two helpful devices, which will adapt such projectors for convenient showing of transparencies in Kodaslide Ready Mounts.

One device is the Ready Mount metal frame. These frames, the same size and thickness as a conventional 2 by 2 inch glass slide, will be available April 1. A Kodaslide Ready Mount slips into each frame, and may then be used in the same manner as a glass slide. After a group of slides is shown, other Ready Mounts may be substituted readily in the same metal frames.

The other new device is a Ready Mount Adapter for the Kodaslide Projector, Model A. It inserts in the slide guide of this projector, and Ready Mounts are fed through by means of a sliding member. As each Ready Mount is moved into place, it pushes the preceding slide into the receiving holder at the projector base. As when showing other slides with this projector, the screen may be darkened between picture changes by raising the shifting lever.

Prices of these new Eastman developments, other than the new cost-free ready-mount service for Kodachrome transparencies, are:

Kodaslide Ready Mounts, for personal mounting of black and white film positives or Kodachrome transparencies, \$1.50 per box of 50, in No. 828 or No. 135 film size.

Ready Mount Metal Frames, packages of six, \$.60.

Ready Mount Adapter for Kodaslide Projector, Model A, \$3.

Conveniently located on Plaza IV, the New York World's Fair building of the Eastman Kodak Company, vigorously modern in every detail, will house an enormous exhibit symbolic of photography's growth and progress in the past century.

The building, with a total area of 22,000 square feet, is set in a beautifully landscaped plot covering an area of more than 42,000 square feet.

Pictured above is a view of the building showing the photographic garden. This garden is a beautifully landscaped plot to add further to the entertainment of visitors to the exhibit. Here they may take souvenir snapshots of their friends and relatives in interesting and attractive settings—some with photo-mural backgrounds if they choose.



Shooting from Air Uncovers Camera Marvels



View of Black Canyon, near Boulder Dam.

A VIRGIN field of photographic marvels is open to camera enthusiasts who have not yet taken to the air for "something different."

Western States offer probably greater opportunities for minicam and movie addicts than any other area in the nation.

Supposing you were to plan a vacation in this Western wonderland for this year. You can easily cover seven states in fourteen days. All that is needed is to back your pleasure jaunt with a traveling bag and a good supply of film. If you motor, you might get as far as Boulder Dam and find so many photographic possibilities that your vacation would end right there.

So climb aboard an airship, plump yourself into that comfortable chair near the after part of the cabin, have your filters at hand and keep an eye peeled for a shot. You won't have to wait long.

If you should sit forward, you will find that the plane wing serves as an excellent sunshade under most conditions. You cannot depend too strongly on your light meter, for you will often be fooled by the reflected light of the metallic wings. Your judgment, therefore, should be tempered accordingly.

Filter Will Cut Haze

Much of the haze, present under average conditions, will be cut with a good filter. You will obtain generally excellent results at f.8 when shooting from the air. Do not be overmuch concerned about your traveling speed. The stewardess may tell you you are scooting along at two hundred miles an hour, but do not let that warp your judgment when setting your camera speed.

If, at Los Angeles, you board the Western Air Express plane to Salt Lake, you won't wait long for the first chance. You will have Mint Canyon, the great Mojave Desert, then later, Lake Mead and Boulder Dam. The

By Richard B. Stith
(*Flier and Photographer*)

pilot will obligingly give you an oblique angle as you circle the great structure and you can bang away to your heart's content.

In fact, a gentle hint to the stewardess that you are anxious for such-and-such a shot usually works wonders. The pilot is probably a nut on the subject, too.

A few minutes later colorful Cedar Breaks are below. If you have color film you stand a cinch to catch something "arty." Next is Zion, where rock formations suggest every sort of photographic possibility. Of course, there is nothing preventing you from stopping over long enough for side trips to these places.

Stop at Yellowstone

At your first destination you will find Salt Lake City a colorful metropolis. The Mormon Tabernacle, Salt Lake, the Wasatch range and many other familiar landmarks are there waiting for the "new" treatment you want to give them.

Continuing north to Idaho, you will find a bird's-eye view of Bingham Copper Mine—the largest open cut mine in the world—at its best from the air. The Snake River Valley of Idaho is a favorite photographic subject for all who fly over it.

Your Mainliner stops at Yellowstone, where ground and air offer probably the greatest possibilities for the amateur photographer in the world. You could spend a week here and only touch the edges when it comes to recording sights on film.

Continuing north, your ship passes over the Continental Divide, where rivers decide which course they will take to the sea.

In Montana, you have the "old West"

at its best, and of course the great Anaconda Copper Mines and smelters.

At Great Falls, you may hop off for a side trip into Glacier, where scenic grandeur is unrivaled in all the world—another place you might spend a week if your schedule didn't call for the westbound Northwest Air Lines ship to Seattle.

And there is the finest harbor in the world, the green, fertile valleys of Washington, Mount Rainier and the colorful waterfront.

Columbia River Gorge

At Portland, your ship gives you a view of the wide expanse of the great Columbia and Willamette River basins. There is time for a side trip up the Columbia River gorge and probably one of the most photographed river beds in the world. Bonneville Dam is the newest subject matter offered.

Off southward again, through your state capitol at Sacramento, the Imperial Valley and into San Francisco, where the World Fair will be well worth recording on film.

For scenic and manmade marvels (the Bay bridges) the Golden Gate City is unrivaled. Again your color film will come in handy if the Bay obliges with one of its glorious sunsets.

You top off your photographic cocktail here and return home on your United Air Line plane with a trip that will be long remembered, because you will travel it year in and year out again through your scrap book. Such a circle tour would be a lifetime of sightseeing for just two weeks of your 1939 vacation.

Filming for Memento

But here we are; we have outlined our whole trip and have not decided what type of pictures we are going to take. It is one thing that must be decided before we start.

Are you going to try for those spec-



Top, view of Los Angeles. Center, upper end of Lake Mead, where the Colorado River enters. Above Zion Park.

tacular unreal photographic effects, or are you going to try to photograph the lovely scenery as it actually appears, so that months after the trip has been made you can review your films and see the scenery as it actually appeared?

If you are shooting black and white and wish to reproduce things as they appear to the eye, about the only things needed are a good panchromatic film and an aero No. 2 filter. If you shoot color, do not use any filter at all.

There is much discussion about filters for cutting the haze on color film, but after all, that haze is actually there when you see it with the eye, so why try to take it out.

Spectacular photographic effects are all right when you are building a drama and using actors, but in the final analysis your film and mine are very beautiful travelogues, so why not try to make them reproduce the scenery as near as possible.

When shooting from the air you probably will be warned about all the troubles that you will have in shooting through the glass windows of your air transport, but do not let this deter you in your efforts.

There have been many thousands of feet of beautiful black and white and color film shot through the windows of Air Line transports, and there is absolutely no reason if you are careful, watch your halation and reflection on the glass that your films cannot be just as good.

Shoot at 64 a Second

Obviously it would be impossible for you to take the door off the ship you are flying in and bolt a tripod down to the floor. A short cut that will give just as good results when viewed upon the screen is to shoot your film at 64 pictures a second. This extremely high speed will permit hand holding and will smooth out the bumps or vibration when the picture is run at projection speed on your projector and screen at home.

However, do not forget that the faster a film is run through the camera the larger the lens aperture that must be used.

Light meters are very important in aerial work. As stated earlier in this article if you will watch for a kick-back off the wings and be careful of your readings, you will find that your meters are just as dependable as ever and can be trusted implicitly.

Ninety per cent of the bad results from light meters is the user's fault and not in the fault of the meter.

So get out your camera and your accessories, clean up your lens and try aerial filming. It is a grand sport, and with proper care marvelous results may be obtained.



Mr. and Mrs. Perce Marples—on the left in a passport picture. On the right they are shown between their home in the South Seas and the ocean.

Mr. and Mrs. Marples Film South Seas

TAHITI, the pearl of the Pacific . . . the isle of romance and beauty . . . where snowy terns sparkle against the azure sky . . .

"And graceful palms bend and sway in the cool trade winds . . . where the steep verdant hills roll down to a coastline indented by innumerable bays that have offered alluring shelter for ships since the *Bounty* anchored here 150 years ago . . . or to a rocky beach unprotected by the usual barrier reef . . . where dark valleys carry bubbling streams of cool, clear water that empty into lagoons of infinite stillness and beauty . . . where quiet lanes are paved with coral and banked with heavily perfumed tropic flowers . . . such as *Frangipanni* . . .

"The beautiful *Bougainvillea* . . . and the stately *Flambuoyant* . . ."

And that is the point in "*Islands Under the Wind*" where we will fade out before we see that same thing on

the screen marking the end of the picture's first sequence. But the vocal record voiced by Perce Marples gives the beholder an idea of the lure that goes with these pictures of the South Seas as Marples and Mrs. Marples found it and as we see it reflected in 1250 feet of Kodachrome on the screen.

The Marples were in the South Seas from January of 1938 to November of the same year. They came away enchanted with the atmosphere. Marples, in fact, thinks so well of his experiences in the islands he is seriously considering being back there and with a boat of his own under him.

The location geographically is something parallel to Hawaii. Where that

A trading schooner on which the Marples will sail away for a visit to one of the rarely visited South Sea Islands—an island where but three times a year those who live there see visitors.

territory of Uncle Sam is about 1200 miles north of the line Tahiti is relatively the same distance south.

Tahitian Documentary

The Marples, by the way, showed their picture at the March meeting of the Hollywood Forum. There was a narrative by the authors-producers as well as a musical score. The theme was the life of a Tahitian family, living in their simple, extremely primitive, almost idyllic way. Also there were side trips on trading schooners to neighboring and distant islands. There the visitors looked in on other peoples—and participated in their feasts and celebrations.

Mr. and Mrs. Marples saw the South Seas not as tourists. They did not register at one of Papeete's hotels. They went out of town a distance of four-teen miles and rented a house that was to be built for them. To a question as to whether the house was on the ocean the answer was returned that all visitors from the more settled parts of the world always were given homes on the ocean.

As to their food they lived like the natives, largely. Meat was brought out to them twice a week. Food grows luxuriantly the year around. There are three seasons, those of the *fei*, taro and breadfruit. These overlap. The Tahitian natives, too, really are neighborly. They bring foodstuffs to the door in abundance. Then, too, of course fish are in the market the year around.

Smokes Are Cheap

The food problem plainly is not one of supply; rather it is one of consumption.

In the matter of wines and liquors and cigarettes prices on the latter are less than in the United States; in the wet goods the cost is less even than in France.

(Continued on Page 237)



TRACE DOCUMENTARIES' BEGINNING BACK TO 1932

Editor American Cinematographer:

WE are indeed happy to read articles on the "documentary film" in your magazine. For as adherents of this form of film we feel too little attention has been given to the documentary film as a vital force in the film world today. Its growing importance in the field of education justifies more discussion on its problems and history.

Mr. Schustack has made ample definition of the scope of the documentary film in the United States. However, there was a documentary center here in America as early as 1932. This center began with a group of film and photo clubs known as the Film and Photo League.

Clubs were situated in New York, Chicago, Boston, Washington, Detroit and Los Angeles. Their program was that film shorts, either 16mm. or 35mm., could serve a very useful and important function both socially and educationally if it dealt with important topics of the day such as unemployment, housing, etc.

The films were not newsreels, but thought-out problems in presenting facts. For instance one 16mm. film was produced on the waterfront dealing with unemployed men who live and from time to time work there. Here was a task not merely to make a newsreel record but to dig into and understand what these men did, felt and thought from dawn to dusk.

For days scenes were photographed by members of the group who went down to the waterfront as early as 4 a. m. to catch the men waking up from their benches to look for work as stevedores on an early ship arrival. The effect of the film is shown by the praise it received from the then film critic of the New York Times, Andre Sennwald, who saw it at a private showing.

Other films of similar nature followed and were widely shown in clubs, colleges and schools. Today, although the Film and Photo League no longer exists, many who are today practising documentary film received their primary education and instruction and guidance from association with the group.

Today Contemporary Films, as an extension of these groups, is producing documentary films dealing with the little-considered, yet important problems of the consumer. Two of a series of such films have already been produced and received the widest distribution of many documentary films, even to the extent of playing in the Filmarte Theatre in New York City for twenty-six weeks straight.

A third in the series is being planned for early spring production. This series is called the Getting Your Money's

Worth Series and has been praised by Esquire and trade magazines for its novel subject treatment.

And, although this is the main work of the company, other projects are on hand, for instance, a film on the life of a dairy farmer. An experimental film in psychology is another. The persons responsible for the production of "Getting Your Money's Worth" are Julian Raffman, Robert Del Duca and Victor Kandel.

HARRY KLEINMAN,

1451 Broadway, New York City.

March 7, 1939.

Name Witherspoon as Head of Spencer Lens Company

Following the recent annual stockholders' meeting of Spencer Lens Company, Scientific Instrument Division of the American Optical Company, the following officers were elected:

H. N. Ott, chairman of the board of directors; B. H. Witherspoon, president and general manager; H. D. Rhynedance, vice president and general sales manager; B. Glenney, treasurer; C. W. Barton, secretary and manager of research and development.

As chairman of the board, Mr. Ott, under whose leadership as president since 1919 the company has achieved worldwide recognition, relinquishes active executive responsibilities.

Mr. Witherspoon, who has had broad experience in sales, engineering, and research and development work, has been active in the management of Spencer Lens Company since 1935, serving as a member of the executive committee and vice president and general manager,



B. H. Witherspoon, president and general manager Spencer Lens Company.

from which position he now assumes the presidency.

B&H Now Lists 365 Silent Film Titles in Catalogue

SIGNIFICANT increase in the production of silent films and the apparent trend to the educational in subject is shown in the recent revision and enlargement of the Bell & Howell rental and sale catalog of 16mm. silent films. This catalog now lists 365 silent film titles. Of these 58 have been added since the last printing, about six months ago.

The 58 silent film titles added by Bell & Howell in the new silent catalog edition compares with 82 titles added in the new supplement to the Filmosound Library rental catalog, just published, raising the total of titles in the sound library to over 1100, comprising more than 3000 reels.

There is virtually no new production of silent film dedicated specifically to entertainment. Silent films have gone "educational." The talking picture is demanded nowadays for entertainment, whether for school, church, institutional or private home.

Either or both the new film catalogs mentioned are sent free to owners and users of 16mm. projectors. It is only required that mention be made of the make and model of projector and the dealer from whom it was purchased. It should be indicated clearly whether the projector is sound or silent.

Kalart Issues Booklet

A new illustrated 36 page manual on speed flash photography has just been published by the Kalart Company. This is one of the most comprehensive ever published on the subject.

Examples of prize winning pictures are shown as well as Synchro-Sunlight, action and sport pictures. Complete exposure charts for distance and the various size flashbulbs, including both the foil and wire types, are given in this manual. In addition the charts contain exposure recommendations for all films.

The manual is free and may be secured by writing the Kalart Company, 915 Broadway, New York.

Important Ampro Notice

Effective April 10, to facilitate production in the Ampro plant, it has been decided to drop the following Ampro models from regular standard line of equipment and notice is given to Ampro's dealer organization and to the trade that these models will be excluded from the manufacturer-retailer fair trade agreement which has been in effect since June 11, 1938:

Ampro silent projectors, Models J, JS, K, KS and Ampro sound-on-film projector, Model M.



KODAK PUTS UP BUILDING AND CUTS DOWN PRICES

IN 1938 more than \$100,000,000 was spent on amateur photography in the United States. Sales in cameras and photographic supplies shattered all records and the year ended with a new high of more than 18,000,000 cameras in active use in this country.

With confidence in the future the Eastman Kodak Company has announced an unprecedented expansion program to maintain this momentum.

Construction is well under way at Rochester on an addition to the largest camera works in the world. Facilities for precision manufacturing plus greater and more efficient production will cut manufacturing costs, and this anticipated saving is being passed along to Mr. and Mrs. Amateur Photographer, via lower camera prices effective March 1.

The reduction in some prices is a quite substantial one, these savings to apply on the newest and most popular 1939 Kodaks.

Never before, according to the Eastman Company, have fine, precision-made Kodaks sold at such low prices. Lower prices apply to the new series of Kodak Bantams and Kodak 35s announced the latter part of 1938. Price reductions bring these cameras well within the means of amateurs who have wanted a fine miniature camera with a fast, reliable, color-corrected precision

lens, not only capable of taking excellent pictures in black and white, but with Eastman's Kodachrome the full color film.

With these lower prices, Kodaks with fine, sharp, precision-built Kodak f.4.5 Anastigmat lenses can now be purchased as low as \$22, the lowest in the history of the company.

Price reductions, however, are not confined to cameras in the higher priced brackets, but go down the line to the Bullet, which is now priced at \$2.

St. Paul Moviemakers

Members of the St. Paul Amateur Moviemakers Club all joined in producing the synchronized sound effects for a film of the St. Paul Winter Carnival

New Eastman plant, extensive addition to a camera factory already the largest in the world, as it will appear when completed. Here will be produced the finest precision cameras, made by the largest group of American craftsmen ever assembled in the photographic industry.

Parade at their regular meeting March 21.

The film was made by Vice President John Scott. The musical background was made with dual turntables, and the crowd noises were contributed by the eighty persons who attended the meeting.

Following the sound recording so many films of the carnival activities were offered for projection that two screens were used simultaneously in the club's first attempt at multiple projection.

The club meets the first and third Tuesday of each month in the Commodore Hotel. Movie fans are welcome at the meetings.

Palmer B&H Manager

Mervin W. Palmer, well known in the motion picture industry for nearly thirty years, has been appointed service manager of the Bell & Howell Company, New York branch.

Mr. Palmer was connected with the old Biograph Studios in New York from 1912 to 1920. For two years he was chief engineer for the Paramount Studio at Astoria, L. I. His more recent connections have been with Motion Picture Lighting and Equipment and International Projector Corporations. Also he is active in the Society of Motion Picture Engineers.

NEW CAMERA BUGGY—Photographer Victor Milner, A.S.C. points out the many features of the new Paramount camera buggy which has just been put into use on fourteen stages at the studio. The interested onlookers are Jackie Cooper and Director Theodore Reed (center) of "What a Life!" which Milner is filming. The new buggies eliminate carrying of a dozen or more separate boxes with various parts of the camera equipment. It is made of dural metal and weighs less than 25 pounds empty. Tiny pneumatic tires, silent hinges, a folding top, fireproof film compartment are among the features.

Photo by Edward Henderson.



LITTLES' PARTY MAKES REAL HIT IN ITS TENTH

ON Friday evening, April 14, Mr. and Mrs. Duncan MacD. Little presented, at the Barbizon-Plaza Theatre in New York City, the tenth of their series of Annual Movie Parties, which have been described by a London magazine as the most amazing development of amateur films. And the show was a genuine success from all angles.

This year the party was thrown open to the public at large, instead of being restricted to friends and acquaintances of Mr. and Mrs. Little, and tickets, at \$1.50 each, were assigned in order as applications were received.

In former years attendance had been by invitation only, and so great had become the demand for invitations that in 1937 it was decided to hold the party in the Salle des Artistes, but the Salle proved of insufficient size, just as had the ample living room in the Little home.

Immediately after the 1937 show, Mr. and Mrs. Little were invited by the Division of Film Study of Columbia University, to make their Ninth Party (for 1938) an integral part of the program of "The Motion Picture Parade" conducted by the University, and they were also invited to arrange an International Amateur Film Show, to reach beyond the scope of the Parties, and to comprise, if possible, the best amateur film from each of as many foreign countries as would participate.

The two schemes were adopted, and the campaign was launched. This magazine told, last spring, of the success of these shows, and gave in detail, full particulars concerning the films that were exhibited.

Despite that "Film Study" threw its doors open to the public for both the Ninth Party and the International Show, the Salle des Artistes was again crowded beyond its reasonable capacity at the Preview to which the Littles' friends and "regulars" were invited. Something drastic had to be done.

The costs of these annual movie parties had mounted to a sum that was more than one person should bear, willing as that person might be, and anxious as he might be to advance the status of Amateur Films. It was decided to try a distinctly new method.

The public would be asked to support and to pay for the show. This would also provide a gauge to estimate whether or not the public was really interested.

Having no desire for financial profit from their movie activities, Mr. and Mrs. Little asked the trustees of the Peabody Home for Aged Women to sponsor the Tenth Annual Movie Party, and to accept whatever surplus there

might be over the necessary and not inconsiderable expenses of the party.

This offer was accepted, the basis being that the Peabody Home assumed no responsibility nor was to make any effort to sell tickets.

The New York Herald-Tribune of April 15 gave the following account of the show:

As Herald-Tribune Saw It

Eight outstanding motion pictures, produced by amateur cinematographers in the popular 16-millimeter film size, were shown last night to an audience of 500 persons at the tenth annual "movie party" given by Mr. and Mrs. Duncan MacD. Little.

This year's show, held in the auditorium of the Barbizon-Plaza, Sixth Avenue and Fifty-eighth Street, was conducted as a benefit for the Peabody Home, 1000 Pelham Parkway South, the Bronx, an institution for elderly women.

The films selected for projection last night were chosen by an independent jury from twenty-four entries. Films made by amateur photographers in Poland, Japan, Australia and the Philippine Islands were included in the show.

A short documentary film, showing the buildings and some of the activities of the Peabody Home, introduced the regular program, first item of which was "Nation Builders," filmed by James A. Sherlock, of Sydney, Australia. This carefully produced picture, winner of the grand prize in the 1938 contest of the American Cinematographer, depicted the growth of civilization on the Australian continent since the arrival of the first English explorers, with its industrial plants, modern cities and major sheep-raising industry.

Ghost Story Filmed

"Ritual of the Dead," one of the most interesting of the productions, was a ghost-story—the hectic tale of an explorer who murdered two comrades to get possession of jewels found in an ancient tomb, and in the end was haunted to suicide by a mummy of ghastly appearance. The producer, Richard H. Lyford, of Glendale, Calif., was nineteen years old when the film was made.

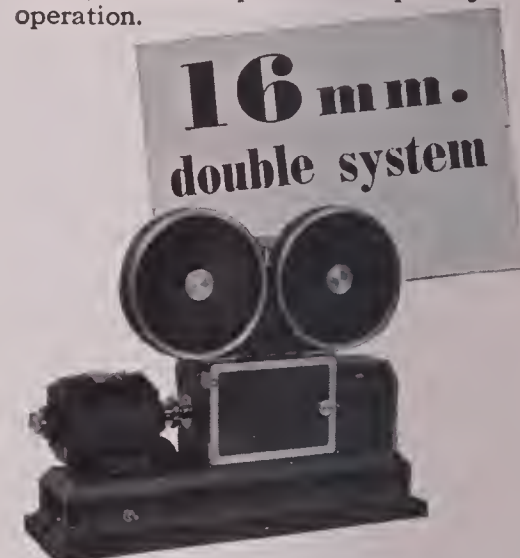
"Climbing in the Dolomites," by Christine L. Reid, of Brookline, Mass., showed the methods used by two Alpine guides in scaling a rocky and dangerous peak. The close-ups were remarkable, especially since the photographer had to make the climb with them, at times carrying her camera in her teeth.

"Ski-Legs," the only other film with a dramatic scenario, was an ingratiating comedy satirizing the fads of skiing and candid camera photography, and leading up to a cleverly staged ski race. It was

(Continued on Page 238)



Whenever it is necessary or desirable to make the sound track on the same negative with the picture, use the compact, portable B-M Sound-Pro Camera. It produces professional quality 16 mm. sound films, with unequalled simplicity of operation.



For utmost flexibility in the various steps of filming, separate recording of sound, re-taking, re-recording, cutting and editing, use the B-M Model D Double System—the type of equipment employed to record the sound of more than 84% of all professional productions.

Explain your sound movie problems and requirements and ask for bulletin No. AC-5.

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ENGINEERS' HOLLYWOOD CONVENTION AGAIN HITS HIGH MARK

THE Society of Motion Picture Engineers, as is customary in alternating years, held its spring convention this year in Hollywood. The gatherings, as was the case in 1937, were held in the Hollywood Roosevelt. And in accordance with its established custom the society's sessions were held practically at the announced time—which is something at any kind of a convention.

April 17 at 10 o'clock in the morning marked the opening. Until 10:10 in the evening of Friday, April 21, the program was unreel'd with mathematical or if you will say engineering precision.

The sessions opened at the appointed hour on Monday with a report by W. C. Kunzmann, convention vice president and chairman of the convention committee. It closed Friday evening at 10:10 with a paper on "Design Problems in Television Systems and Receivers" by A. B. Dumont of the Allen B. Dumont Laboratories of Passaic, N. J.

There were two exhibits which attracted special attention—and they were on the opposite poles at that—of the new equipment and of the color stills. Of the latter O. O. Ceccarini of Hollywood was the chairman and of the equipment J. G. Frayne, also of Hollywood, was chairman. The equipment show was described as the best one ever to be held by the engineers.

The program included everything having to do with sound as well as with photography. Television was allotted unusual time. So also was 16mm. on the sound side.

Two mass visits were made to studios—to Paramount on the afternoon of Tuesday and to Warners' at noon of Thursday. At the Paramount the host was Loren L. Ryder, director of recording. The guests were limited to the

men and women registered inasmuch as facilities were confined to 250 persons.

Saw Background Shooting

The visitors were given an opportunity to view projection background shooting and visit stages where special effects and miniature work are carried out. Visits also were made to the sound and dubbing departments as well as production stages where actual photographing was witnessed.

At the Warner studio the engineers' party were guests of Major Nathan Levinson, director of recording. Visits also were made to the wardrobe departments and to the new units of the crafts building. In addition to a general sightseeing tour of the lot, what was of particular interest to the engineers was the opportunity to inspect Fred Gage's laboratory. Luncheon was served at the studio.

In the color stills showing there were thirty exhibitors, with a total of 150 prints. There were many examples easily worth walking a mile—at least—to see. Among the exhibitors were:

E. W. Benson, North Hackensack, N. J.; Charles W. Burgess, Minneapolis, Minn.; Whiting-Fellows, New York; Pagano, Inc., New York; Paul A. Hesse studios, New York; Victor Keppler, New York; E. L. Letten, Toronto; Goesta P. G. Ljungdahl studios, New York; Nickolas Muray and Associates, New York; James Pickands, II, New Haven; Chester A. Pleadwell, Flint, Mich.; Defender Photo Supply Company, Inc., Rochester; Shigeta-Wright, Inc., Chicago; William Stevenson, Cleveland; Wynn Richards, New York.

Van Damm studio, New York; W. G. Houskeeper, South Orange, N. J.; Wilfred H. Wolfs, New York; Max Hirsch Jr., Long Island; Paul Outerbridge Jr., New York; James N. Doolittle, Los

Angeles; Nicoll-Pratt Corporation, Los Angeles; R. T. Dooner, Philadelphia; Charles H. Miller, Chicago; K. L. Henderson, Rochester; Ralph Boyle, Philadelphia; Frank Miller, Everett Moses, Chicago; C. O. Ceccarini, Hollywood; H. I. Williams studio, New York.

New Equipment Shown

Among the equipment firms were Mole-Richardson, with new lighting equipment; R. C. A., with the latest in sound equipment; Newmade, with accessories; Lansing, amplifiers and loud speakers, etc.; International Projector, with the latest in sound projection; Erpi, demonstrating newest recording equipment; Eastman, with its new Cine Kodak Special, including reflex finder, image magnifier, optical finder and motor drive. Also shown was the Koda-scope, Model G.

Moviola showed its new preview equipment, and Norman Neely of Radio Enterprises displayed his equipment for recording and playback. This was given a demonstration the night of the banquet, when without tipping off the guests a recording was made and shown at the conclusion of the talks.

Among the papers read on 16mm. sound were:

"The Present Technical Status of 16mm. Sound-on-Film," J. A. Maurer, Berndt-Maurer Corporation, New York. (Demonstration.)

"A High-Intensity Arc for 16mm. Projection," H. H. Strong, Strong Electric Company, Toledo.

"New 16mm. Recording Equipment," and "Notes on French 16mm. Equipment," D. Canady, Canady Sound Appliance Company, Cleveland, Ohio.

On the evening of the final day the entire time was devoted to television. Among the papers read were:

"An Introduction to Television Production," H. R. Lubcke, Don Lee Broadcasting Company, Los Angeles.

Report of the Television Committee, A. N. Goldsmith, chairman.

"Application of Motion Picture Film to Television," E. W. Engstrom and G. L. Beers, RCA Manufacturing Company, Camden, N. J.

"Continuous Type Film Scanner for Television," P. T. Goldmark, Columbia Broadcasting Company, New York.

"Television Studio Technic," A. W. Protzman, National Broadcasting Company, New York.

"Television Lighting," William C. Eddy, National Broadcasting Company, New York.

"Design Problems in Television Systems and Receivers," A. B. Dumont, Allen B. Dumont Laboratories, Passaic, N. J.

Among the many papers read were the following:

Brief Review of Foreign Film Markets during 1938. Nathan D. Golden, Motion Picture Division, U. S. Bureau of Foreign and Domestic Commerce.

American motion pictures continued to

Hollywood Engineer Designs New Type of Meter

(Continued from Page 201)

flected toward the positive plate, in proportion to the current it carries.

With two sets of deflecting plates, set at right angles to each other, the dangerously near either the upper or lower limits of the film's latitude, where such a point was, and to correct it. Similarly, the pattern as a whole should give a quick indication of overall exposure values.

The amplifier gain control could be calibrated either in terms of film-speeds or in f-values for a given emulsion speed. It is fortunate that the conventional gain control is calibrated in units following a similar logarithmic progression to that of the familiar f-system.

Speaking of his invention, Franklin remarks: "As a result of being able to

determine quickly and accurately not only the overall exposure but the contrast relations for each scene photographed, the cinematographer will be able to get constantly the best tone reproduction that the film is capable of rendering from any given scene.

"While the skill with which modern cinematographers balance light visually has become a byword, it should nevertheless be very helpful to have a device like this which will at a glance inform one if any portion of his lighting is above or below the limits of his film's latitude and precisely where that spot is.

Eliminate Correctives

"Such a device should also go far toward eliminating the need for the laboratory's corrective manipulations of under or over developing the negative, or printing the positive up or down with their attendant losses in undistorted tone reproduction.

"The Multiscope meter will enable the cinematographer to ascertain the contrast relations between people and background, to know the light levels of all portions of the scene, to know more accurately how colors reproduce in monochrome (some shades still can fool even the trained eye), and to determine the amount of correction afforded by filters under various outdoor operating conditions.

"Since the infra-red film used for filtered night-effect scenes utilizes light invisible to the eye, there is often a good deal of uncertainty in making infra-red exposures.

Achieve Superior Results

"This instrument will eliminate or greatly reduce these difficulties and make it possible to achieve superior results consistently.

"It is obvious that an instrument which accurately will determine both exposure and contrast relations in terms of film response not only will minimize errors on the set but in the laboratory as well, since it will afford a more consistent negative, which in turn can be processed by more consistent methods.

"It should also eliminate or greatly reduce the need for tests in the laboratory or hand tests on location or set.

"In all of this, the Multiscope meter can be used only as a guide: it cannot balance the light for the cinematographer nor force him to work according to formula. But it will leave his artistic talents a freer scope, with fewer technical worries since it shows clearly and quickly anything that throws the lighting of any portion of the scene beyond the safe tolerances of the film used.

"It will, in other words, eliminate a lot of guesswork and routine worry, making it possible to obtain higher artistic achievements since the photographer need trouble himself less about routine drudgery."

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Agfa Ansco Adds f4.5 to Its New Memo Camera Line

Following closely on the heels of the introduction of the new Agfa Memo camera word comes of a second model of the new 35mm. miniature camera from its makers, Agfa Ansco Corporation in Binghamton, N. Y. This latest addition to the Agfa camera line is equipped with an f4.5 lens and retails for \$25. The first model of the new Memo camera to be announced, listed at \$35, is equipped with an f3.5 lens.

In all other respects, the more recent f4.5 Memo is exactly like its counterpart, being a "double-frame" model giving 24 pictures, 1-7/16 by 15/16 inches, on each cartridge of film. It provides the same exclusive features of simplified loading and sliding bar mechanism that advances the film in one rapid motion, and eliminates window-watching.

Also retained on the f4.5 model are the 1/2 to 1/200 second shutter, automatic exposure counter, depth of field scale, brilliant, direct view finder, neckcord and eyelets, accessory clip, tripod socket, pressed steel frame and other construction features.

Let's Edit a Travel Film

(Continued from Page 208)

which was draped around an inverted salad bowl, which served nicely as an igloo. A few midget trees and miniature reindeer were stuck in the ground, along with a toy Eskimo whose size was proportionate to the other props.

The house was set off at one side, thus leaving a wide expanse of white for folder filming. The whole set was sprinkled with packaged store snow.

With three No. 2 photofloods placed in reflectors about three feet away, the camera was loaded with indoor Kodachrome and the lens set at f/8. Shooting down at an angle, we faded in on the igloo and Eskimo, panning slowly to the left and stopping on the snowy expanse.

One by one, the West Indies and steamship folders fell slowly into the snow within camera range.

Next is a shot of the Eskimo and igloo, but snow has begun to fall and it looks like a blizzard in the offing. This is faked by permitting store snow to dribble down through the fingers, breath-blown lightly. The circulars are now snowed under completely.

Invert the Camera

To give the effect of snow evaporating or melting away, it would only be necessary to invert the camera and sprinkle the folders until they were covered. After the reel is processed, simply cut out the sequence, reverse it end for end, and there is your snow scene with the snow magically rising up toward the camera lens until it exposes clearly the top circular, which, in this case, was a closeup of the "Hiawatha."

Follow this with the long shot of the real train steaming away at the station, and there is your introduction. To simplify matters in our case, instead of inverting the camera we inverted the folders, shooting normally.

To bridge the cross-country gap between the northerly station scene and the southerly steamboat closeup, a color shot of the huge drivers was made during a scheduled departure. As the train picks up speed, the windows zoom by, and you fadeout as the streamliner races off in the distance.

This helped continuity, but, to add further smoothness, an over-the-shoulder shot of a United States map is revealed (presumably opened inside the train), and a heavy crayon pencil, starting at Minneapolis, begins tracing its downward course until Miami is reached. This is followed by the bow of the boat and the whistle, and our worries are

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Engineers Convene

(Continued on Page 231)

enjoy widespread popularity throughout the world during 1938, although the intensification of difficulties abroad has resulted in a drop of 70 to 65 per cent in America's domination of the world's motion picture screens.

The obstacles encountered have been of diverse character, including legislative restrictions, quota systems, high taxes, foreign-exchange controls, occasional excessive censorship, so-called "racial" theories, fervent efforts to build up local film industries, active hostilities in the Far East and Spain, transfers of territories, and such intangible factors as uncertainty and apprehension.

Spanish-dialogue films have scored notable box-office successes in nearly every Latin American country in which they have been shown, locally produced pictures having often exerted a powerful appeal during the past year, because they have portrayed familiar as-

pects of life, in a language understood by the audiences.

On the other hand, a wealth of recent evidence demonstrates the grave defects and difficulties of the motion picture production attempted in certain countries abroad on wholly insufficient foundations.

An Instrument for the Absolute Measurement of the Graininess of Photographic Emulsions. A. Goetz, W. O. Gould, A. Dember, California Institute of Technology, Pasadena, Calif.

Simplifying and Controlling Film Travel through a Developing Machine. J. F. Van Leuven, Fonda Machinery Company, Los Angeles.

A developing machine is described in which the drive of the film is frictional and the film-carrying rollers are driven on the slack of the film. The first driving roller is slightly smaller in diameter than all succeeding driving rollers, thereby setting up a tension on the film throughout the machine.

The upper shaft of film-carrying rollers is held in peripheral engagement with the driving rollers by adjustable springs which have a mounting that is yieldable downward so that any excess tension on the film draws the film-carrying rollers away from the driving rollers until the excess tension has been relieved, which allows the film-carrying rollers to be drawn upward by the springs to contact the driving rollers again.

The driving rollers are directly over the upper film-carrying rollers. The driving mechanism is completely above the tanks and solutions, and all film-carrying rollers in the wet end are mounted individually free and, in turn, are all mounted on free-turning tubing or shafting.

Film-carrying rollers in the dry box, in addition to being mounted on Arguto bushings and individually free, are mounted on tubing which in turn is mounted with grease-seal ball-bearings on shafting, the entire unit being free to rotate or to slide laterally on the shaft, thus becoming self aligning.

To meet the high initial and maintenance cost of ball-bearings found in film-carrying spools, 7¼-inch film-carrying rollers are used throughout.

Film enters machine in a steady, constant flow. Tension can be altered by the operator and, when regulated by adjustment of springs, remains virtually constant throughout the machine. The steady flow makes great speed possible and yet retains a high factor of safety. The machine has the following attributes: great simplicity; entire freedom from precision maintenance; film is always under even adjusted control and does not slip on rollers; breakage from mechanical causes is practically eliminated.

A High-Intensity Arc for 16 mm. Projection. H. H. Strong, Strong Electric Co., Toledo, Ohio.

A short description of a high-intensity reflector type projection arc lamp and associated rectifier equipment, designed as a light-source for 16 mm. projectors.

The Status of Lens Making in America. W. B. Rayton, Bausch & Lomb Optical Manufacturing Company, Rochester, N. Y.

When the modern optical industry was born, this country was predominantly agricultural. Its principal industrial developments related to transportation. It was natural, therefore, that Europe should have gained great prestige in the field of optics in the final quarter of the nineteenth century.

With the turn of the century, however, agricultural developments had about reached their limit and industrial activity began to occupy a larger place in American life. Along with others the optical industry felt the incentive to greater activity and the first fifteen years of this century saw a rapid advance in the

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magnitude of the industry and improvement in the quality of its product.

We were still, however, completely dependent on European sources of supply for our optical glass and for some of the small-demand class of laboratory instruments. Then came the war that not only cut off all aid from Europe but ultimately led Europe to our doors with appeals for optical munitions.

The war only hastened what would have been inevitable anyway, viz., the complete independence of America in optical matters.

The American optical industry has now reached a point where its raw materials (optical glass) and its technical skill recognize no superiors. It can make any practical optical element or instrument for which quantitative specifications can be written.

Notes on French 16 mm. Equipment.

D. R. Canady, Canady Sound Appliance Company, Cleveland, Ohio.

A brief résumé of French substandard projection equipment of unusual design, including a general description of a practical application of the new water-cooled mercury vapor lamp to 16 mm. projectors. Mention is made of an interesting projector that employs no sprockets, automatically adjusts the size of the loops, and reduces film wear to a minimum.

New 16 mm. Recording Equipment. D.

R. Canady, Canady Sound Appliance Co., Cleveland, Ohio.

A description of new 16 mm. equipment, including recorder, film-phonograph, and a new 35 mm. to 16 mm. reduction printer.

The Present Technical Status of 16 mm.

Sound-on-Film. J. A. Maurer, Berndt-Maurer Corp., New York, N.Y.

Improvements in the technic of recording and printing during the past few years have made possible the production of 16 mm. sound-films, either by optical reduction or by direct recording, having considerably better quality than is being obtained in general commercial practice. By the use of a moderate degree of equalization in recording, it is practicable to obtain from 16 mm. negative prints giving a flat frequency response to 6000 cycles, with useful response to 7500 cycles, when reproduced through a flat amplifying system.

Harmonic and envelope distortion and speed variations can be kept within acceptable limits for high-quality reproduction. The principal remaining defect is background noise. Some general agreement upon commercial 16 mm. reproducing system characteristics is needed, however, before this improved quality can be made generally available.

Report of the Television Committee. A. N. Goldsmith, chairman.

Partial reports by the two sub-committees: (A) on Television Production and Reproduction Technic, O. B. Hanson, Chairman, and (B) Film Properties and

Laboratory Practice, O. Sandvik, Chairman. The scopes of activity of the sub-committees are described, and their program for the coming year. Among the items covered by these scopes are (1) glossary, (2) bibliography, (3) tutorial material, (4) dimensional practices, (5) normal equipment and procedure, (6) special problems such as inter-industry coördination, future equipment needs and specifications, etc.

A Continuous Type Television Film Scanner. Peter C. Goldmark, Columbia Broadcasting System, New York, N. Y.

A motion picture film scanner, the first of the continuous type to be used for

television transmissions, is described. The apparatus was put into operation in New York City in the summer of 1937 and has been in use since.

Report of the Studio Lighting Committee. C. W. Handley, Chairman.

An explanation is given of lighting problems from the viewpoint of the cinematographer. Certain advances in equipment and working tools remain in obscurity for a long period before they find their rightful places in motion picture set lighting because they seem to interfere with dramatic effect. If they possess merit, however, they are gradually adapted to general use.

A typical example is the light-meter,

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which is now going through the final stages of assimilation to studio lighting technic. New fast films have been brought into use and the resulting changes in lighting technic are now in the process of perfection. Recent changes in lighting equipment are described. Three new higher-speed negative films for the Technicolor process are being used. The effect of the new films on Technicolor set lighting is explained.

Methods of Using and Coördinating Photoelectric Exposure Meters at the 20th Century-Fox Studios. D. B. Clark, Twentieth Century-Fox Studios, Hollywood, Cal.

Consistency in negative printing values is one of the most desirable single factors in modern cinematography. Photoelectric light-measuring devices can help the cinematographer maintain such consistency to a far greater degree than is possible otherwise.

Not only tests, but actual production have shown that with the proper use of these instruments the entire output of the studio's camera staff can be so coördinated that, almost without regard to the photographic conditions prevailing on the set, all negative will print correctly within a range of three or four printerlight adjustments.

To make this coördination possible,

several requirements must be recognized. Among these are a dominant, and by no means completely fulfilled demand for photocell meters of unflinching consistency; i. e., meters that are not subject to error from photocell fatigue, changes in humidity or temperature, and the like, and are sufficiently uniform that all the studio's meters may be expected to give uniform readings under any given conditions.

While these requirements are not wholly met in existing meters, it has been found possible to use such meters to advantage. Coördination is effected by use of a special, portable testing unit of the photometer type. In this a standard light-source is used in circuit with a battery and milliammeter, and controlled by a rheostat. When the light is brought to known intensities by the application of known currents, the photocell meter being tested must, if accurate, give predetermined readings.

Further logical developments, predictable on the basis of existing knowledge or equipment, should include complete acceptance of strict time-and-temperature methods of negative development and some form of automatic, photoelectric-cell-controlled print-timing.

This would remove all variables, including human fallibility, from the proc-

essing problem, and leave the responsibility for results solely in the hands of the cinematographer, who would in turn be guided by his meter in keeping within the tolerances imposed by film and processing and in his efforts to turn out consistently ideally exposed negative.

20th Century Silent Camera. G. Laube, Twentieth Century-Fox Film Corporation, Hollywood, Cal.

The camera operates without any sound-proofing box or blimp, weighs sixty pounds and is claimed to be the first instrument of its kind to function without the incumbrance of sound-proofing inclosures.

A microscope viewing finder is built into the camera and is brought into position back of the photographing lens by rotating the camera case, which is mounted in a yoke.

The monitor view-finder is rigidly secured to the side of the camera and does not pivot or swing. However, the image produced by it truly conforms to the image being photographed on the film. This feature enables the operator to work with the complete assurance of seeing exactly what is being recorded on the film and without having to guess or make allowances for such errors that arise from parallax and change of focus.

The camera derives its driving power from a motor mounted on the back of the yoke member and drives direct to the shutter. Either synchronous or a-c. interlock motors may be used and driven at shutter speed. This type of drive assures an even and undisturbed rotating motion of the shutter.

The film-moving mechanism, or the so-called camera movement, embodies elements of absolute precision and locates each frame of the picture with registering pins that remain stationary during the exposure. The film is moved from frame to frame at a slower speed than with former cameras and with uniform acceleration, overcoming film damage and loop slap.

The dwell time, or the period when the film is standing still and receiving the exposure, is long and allows for exposure with a 200-degree shutter. These features provide a means for producing pictures showing a superb quality of definition and freedom from defects.

Many features of convenience are apparent. The camera may be synchronized with projection process by looking through a special aperture and turning a knob at the back. The camera conveniently loads when on a low or high set-up. The operator has an unobstructed view of the set when lining up, and may look directly over the camera. All parts are completely sealed from the action of sand, dirt, and water. The camera turret mounts four lenses and provides a quick change from one to another. The freehead is a new hydraulic type, with adjustable drag on both pan and tilt members.

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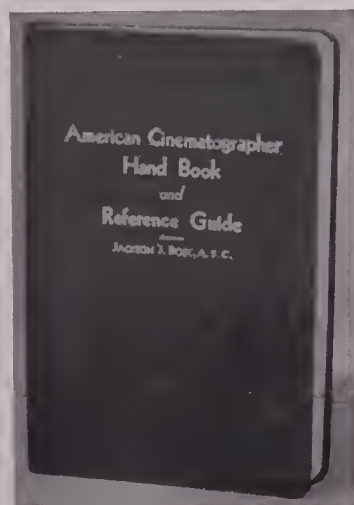
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“The Amateur Alpinists”

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Cast

Jack Wilson, one of a group of young people who succumb annually to a vernal ebullience and work it off by donning hiking attire and climbing the nearest mountains.

Judy King, Jack's girl friend, also similarly smitten in the spring. Mable Stone, Judy's roommate, who joins the hiking party but with less enthusiasm and considerable misgiving.

Jim Stephens, Mable's boy friend who teases her about her lack of enthusiasm but loves her just the same. He, too, is susceptible to spring fever.

Miscellaneous assortment of other youthful couples, depending upon the number of cast members available who have the necessary wardrobe, equipment, etc.

Properties

Hiking outfits for the entire cast, including knapsacks, first aid kits, and other accouterments. One or more cars, preferably one large open model.

Scene 1 (Fade-in) (Interior-Medium) —Judy's and Mable's joint boudoir. Both are in their lingerie and donning their hiking habits, Judy enthusiastically, Mable listlessly. (Closeups at the director's discretion, as the girls dress, depending on the attractiveness of the two girls and their ability to pose, or “model” *without overdoing it*. But maintain the contrast of one's listlessness as opposed to the other's enthusiasm. It runs throughout the story.)

Scene 2 (Exterior long). Street in front of Judy and Mable's house or apartment house. A car rolls up to the curb and stops, preferably a large, open car. In it are Jack Wilson and Jim Stephens, garbed in outing or hiking clothes. (Whether they arrive in their own separate cars is optional. Then, too, all others in the cast, if any, should arrive in this scene, as this is the rendezvous for the day's outing.) As the car rolls to a stop, the driver leans heavily and repeatedly on the horn button.

Scene 3 (Closeup). Driver pushing and repushing horn button.

Scene 4 (Interior medium). The two girls' boudoir. They are nearly dressed. Both girls hear the horn simultaneously. Judy runs enthusiastically to the window and waves. Mable makes a grimace.

Scene 4 (Closeup). Judy at window. She raises it and, leaning out, motions to the two boys to come on up.

Scene 5 (Long). Over Judy's shoulder shooting out and down on the two boys as they hastily and enthusiastically climb out of the car and hurry toward the front door.

Scene 6 (Medium). Judy crosses from window to door, which she opens and stands waiting for the boys. Mable, still bored and listless, with a slight martyr like expression—(she's a self-admitted “good sport”)—is putting on some finishing touches.

Scene 7 (Same as scene 6). Jack and Jim enter. Jack embraces and kisses Judy as she stands in the doorway. Jim crosses and likewise embraces Mable. For one, brief, fleeting instant, Mable's face lights up with interest—keen interest—as Jim approaches her for his embrace and kiss.

Scene 8 (Closeup). Jack and Judy

kissing. They are very much in love in a reckless, healthy, athletic, spontaneous, exuberant sort of a manner.

Scene 9 (Closeup). Jim and Mable kissing. Just for the brief instant of her receiving Jim, and as she reciprocates his fervid kisses with equally torrid osculations, does Mable's face reveal any interest. This interest seems extreme in direct contrast to her utter lack of interest in everything else. She's a very serious sort of a person for which Jim loves her very much. While Jack and Judy are peas from the same pod, so far as personalities are concerned, Jim and Mable are “opposite types.” Both couples get along extremely well, which upsets lots of psychological theories. However, as soon as Mable leaves Jim's embrace she lapses back into her listless and bored attitude about the hike, or outing. To her it's a waste of time.

Scene 10 (Medium). The two couples

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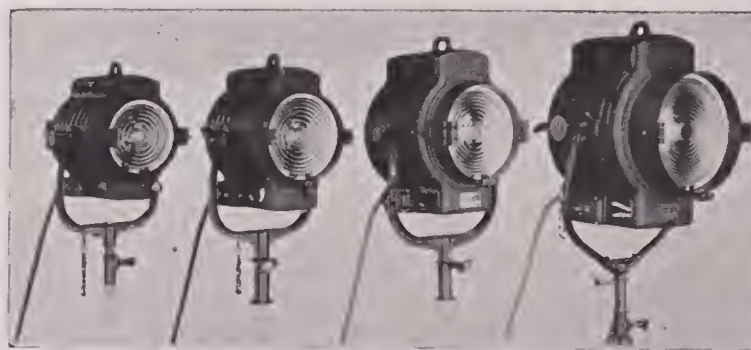
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break away from their clinches and gathering up the things that they are taking with them there is much hustle and bustle. Finally, laden with blankets, lunch baskets, thermos bottles, etc., etc., they exit.

Scene 11 (Long). Through windows in girls' room, shooting out and down, as they pile the stuff into the car and board it and prepare to drive off. If there are others the whole caravan is preparing likewise.

Scene 12 (Exterior, medium). Down in the street as the car (or caravan) is about to drive off amid much noise and gaiety. As the car (or last car in the caravan) drives away into the distance (Fade-out).

Scene 13 (Fade-in, exterior). Atmosphere shots of sky, clouds, trees, mountains, or other landscapes to establish mood. These types of shots, including others of wild life: animals, birds, flowers, etc., maybe cut-in throughout the picture.

Scene 14 (Medium). Car (or caravan) arrives at destination. It's either the base of a mountain, or a comparative molehill, depending on the locale of the cinemakers. Wherever it is that the hiking party that is to begin has arrived. They disembark and assemble packs, knapsacks, hiking staves, etc. One of the boys enthusiastically leads the way with enthusiastic but impractical haste. The rest follow.

Scene 15 (Long). The file of hikers as they wend their way up a trail, Jim and Mable bringing up the rear. Mable cautiously, slowly, takes her own sweet time with every step. (Tilt the camera for a sky or tree-top shot.) (Fade-out.)

Scene 15 (Medium). Jack and Judy climbing over somewhat of a precarious spot. Judy slips and throws out an arm to save herself. She falls on the arm and yells with pain as she falls. Jack is instantly at her side and helping her back on her feet.

Scene 16 (closeup). Judy prone. Jack helping her up.

Scene 17 (Medium). Jack supporting Judy as the others gather around. She has hurt her wrist and elbow badly. Under the officious handling of Jack and Jim, they decide that no bones are broken; but when Judy explains the arm is more comfortable in an akimbo position in front of her, because her elbow hurts worse than her wrist, they fix a sling from a huge kerchief for her. Finally the hike proceeds.

Scene 18 (Medium). They have come

to a fork in trails. One is an easy way, which is obvious from the looks of the trail; while the other is more difficult, which is also obvious. Undaunted they all want to go the difficult way—that is, all except Mable, who protests in her best lazy, unenthusiastic, Calamity Jane manner.

Scene 19 (Closeup). Mable protesting, but after much argument, and a kiss or two from Jim, she finally acquiesces.

Scene 20 (Medium). All resume the hike up the difficult trail. Despite the dissension, all is serene in the sky and treetops.

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Scene 21 (Medium). They come to a difficult crossing place. Jack straddles the spot to aid the girls in crossing, giving special attention to Judy, whose arm is in a sling. Judy, in crossing throws her weight wrong which throws Jack off balance and he falls with Judy on top of him, cushioning her fall. Others gather around and help them up. Judy is unhurt this second time, but Jack has a bad rent in his breeches at the knee. Jack insists that he's not hurt but nevertheless he walks with a definite painful limp throughout the rest of the picture. There is some beautiful scenery at this point, which they all stop to enjoy—the injured fake an enjoyment as sincerely as possible. (Cut-in shots of scenery.)

Scene 22 (Medium). They come to a desirable spot for lunch and rest. (The lunch is optional.) If there are many in the party, something happens to all of them; that is, except Mable, who, although continually protesting, escapes all mishaps whatever. During the luncheon scenes, at the director's discretion, one can injure himself opening a can, or a bottle neck breaks off when attempt is made to remove the top, or a finger is hit driving a nail, or a hatchet inflicts superficial damage while one is cutting wood, or an insect stings or bites one of them, etc.

In most instances an overeagerness, or overenthusiasm, is to blame for each accident. This over eagerness and overenthusiasm must be adequately portrayed in each scene narrating each accident; for each minor but painful accident probably would not happen in the normal environment of one's home kitchen. But today each member of the outing—except Mable, of course—is overwhelmed by the breath of spring and the latter's various causations, and they all get into trouble. After each troublesome scene it might be wise to show that all trouble exists only among mankind; and interpolate shots of nature in all its serenity—sky, treetops, landscapes, etc.

Scene 23 (Medium). On the return trip they must cross a brook, or marsh, or swamp, and Jim falls in, drenching himself to the waist. He's in such an enthusiastic hurry (nothing's happened to him so far—he's the last, except Mable of course), he loses his footing and in he goes.

Scene 24 (Medium). They all help drag Jim out as best they can with their various injuries hampering them more or less, and unanimously decide

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they must hurry back to the car, or cars, and get Jim out of his wet clothes. They begin their scramble down the mountain. (Fade-out).

Scene 25 (Medium) (Fade-in). They are at the cars. Jim enters from behind some bushes carrying his wet clothes and a blanket wrapped around him from his waist down. He is barefooted, and, as he walks, an occasionally bare leg is revealed through an opening in the blanket. He gets into the car and Mable wraps another blanket around his bare legs and feet. Mable, the only one uninjured in any way, shape, form, or manner, helps them, one by one into the cars. (Insert a closeup of each one as she does so, revealing the individual injuries, for all of which her sympathy in sincerely aiding them is augmented by sarcastic expressions on her face for each one as she tenderly assists them into their seats or otherwise looks after their needs. Her touch is kind and gentle, but her look is one of contempt and scorn. It's her big scene. Heretofore they've all been belittling her.)

Scene 26. (Medium). Finally they are all in the car or cars. Mable is at the wheel of the big open one. It's an unhappy crowd that wends its way homeward as we (Fade-out)

Mr. and Mrs. Marples Film South Seas

(Continued from Page 225)

The harbor of Papeete is the distributing point for the 110 islands constituting French Oceania scattered over a million square miles of the Pacific. Its famous market catering to the needs of the seven thousand persons who comprise the town is open from 5 a. m. until 7 a. m.—two hours. There are no means of refrigeration, and it is necessary to dodge the hot sun.

Striking pictures are shown of an island 350 miles out of Papeete, an island of three thousand acres and 300 feet high. Four hundred persons live here. Departure is taken before dark sets in.

The following afternoon the island of Tubuai is sighted. It was to this island

the Bounty mutineers first took their craft—and where they first had to dig trenches the better to defend themselves against hostile natives.

Rarely interesting is the picture presented by the Marples of the feast provided for the natives in honor of a visiting French warship, the Jean de Arc. A long hut has been specially built to protect the guests from the effects of the sun. Many native foods are

cooked in Polynesian style on hot stoves.

There are fei (mountain plantain); wrapped in banana leaves are pig, chicken and poi. These are then covered with sand and cooked several hours. So carefully is the food packed that no sand remains on the food.

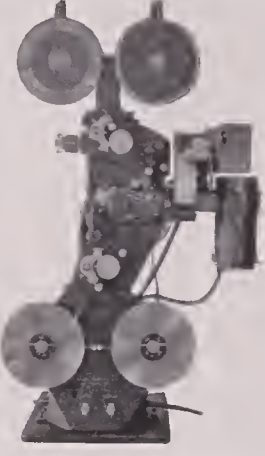
Farewell Feast

On the screen we see gradually rise the home that is built for the occupancy of the visitors. We see cocoanut converted to copra. The manufacture of charcoal, though in lessening volume, is shown. The men bring in from the mountains great bunches of fei, one of the staple foods, weighing 250 or 300 pounds.

When the Marples family announces its coming departure the natives prepare a farewell feast. Again wrapped in banana leaves are pig, chicken, breadfruit, taro, fish, fei and poi, the whole again covered with banana leaves and then with sand. Two hours later the dinner is done. And the record concludes:

"... And so we will leave these happy people to the glory of enshrouded peaks, of tumbling cascades and violet sunshot gorges, which have lost nothing of their old-time enchantment, for such things partake of the eternal and are impervious to the ravages of time and the encroachment of Western civilization. "Our journey, which will remain to us a fadeless memory, is ended."

While Mr. and Mrs. Marples hold the South Seas in the front of their memories and their intentions they are planning this fall to make a trip from New York to Florida through the inside passage, a distance of 1500 miles, and requiring two or three months to cover in the fashion they plan. Another destination they are studying is that of Mexico.



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DA-LITE SCREEN MAKES SECOND PRICE REVISION

INCREASING demand for Da-Lite projection screens has made possible another reduction in price—the second reduction in three years.

The Da-Lite Junior Screens which in 1936 ranged in price from \$3 to \$8 now range in price from \$2 to \$5 (except in the Pacific Coast States, where prices are slightly higher).

The standard Challenger screen, which consists of a roller mounted screen in a metal case to which a tripod is permanently and pivotally attached, now can be had for as low as \$12.50 for the 30 by 40 inch size. This compares with a price of \$20 for the same size screen in 1936.

The Model B hanging screens also have been reduced in price, the larger reductions occurring in the larger sizes. The 63 by 84 inch which in 1936 was \$45, is now \$37.50. The larger square size of the Model B has also been considerably reduced. The 60 by 60 inch, which three years ago cost \$28 now can be had for \$23.

Da-Lite for thirty years consistently has improved the quality of its products and has always been alert to in-

troduce new features that would bring greater efficiency, more convenient operation and longer service.

Da-Lite Screens are used in prominent theaters throughout the country. Their splendid reflective qualities are the result of this long experience in making screens not only for the theater but for schools, industrial users and thousands of amateur cinematographers.

The recent rapidly growing interest of still photographers in the projection of their miniature pictures, particularly Kodachrome mounted transparencies, has brought a substantial increase in the demand for projection screens. The more experienced these photographers become the more critical are they of the quality of their projected pictures. Because of this, more and more of them have been turning to Da-Lite.

Beginning May 1, prices on most of the sizes of Da-Lite Screens will be reduced. This is the second reduction in prices in the last three years. Because of higher freight rates to Pacific Coast States, prices in that territory are slightly higher than for the rest of the United States.

Readers who want further details should write the Da-Lite Screen Company, 2723 North Crawford avenue, Chicago, for a copy of the new catalog.

Philadelphia Cinema Club

Through the cooperation of the local Eastman Stores we had the opportunity of seeing the new Eastman film entitled "Highlights and Shadows." It is a sound motion picture that brilliantly dramatizes the story of photography.

Following the meeting was given over to editing of member's films so far as it was practical to do so. Splicers and rewinds were provided for the purpose.

At the preceding meeting the members approved changing the constitution increasing our membership limit to 100 regular members. It is expected our new membership limit will soon be reached and maintained.

HORACE WILSON,
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RCA Issues Two Carillons

Two new low-cost electric carillon systems, one an instrument which rivals the music of a carillon of twenty-six giant bells and the other a five-note Westminster chime have been announced by the RCA Manufacturing Company.

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Littles' Tenth Party Makes Real Hit

(Continued from Page 228)

produced by the "Cinecoles"—Charles and Robert Coles, of New York.

The four films on the latter half of the program were done in full color. "Beyond Manila," by W. G. Hahn, of Baguio, P. I., showed the amazing rice terraces of the Philippine back-country, and included dramatic scenes of a native harvest festival.

"Archbishop of New Jersey," produced by the Photo-Patrons Club of the East Side High School, Newark, N. J., was an excellent film record of the ceremonies which accompanied the elevation of the Most Rev. Thomas J. Walsh, Archbishop of Newark, in April, 1938.

Gets Wild Life Close-ups

Unquestionably the best productions of the evening were "Still Waters," by Fred C. Ells, of Yokohama, Japan, and "A Country Wedding," by Ing. T. Jankowski, of Warsaw, Poland.

Many of the amateur moviemakers who attended last night's show pronounced Mr. Jankowski's "Country Wedding" the finest piece of 16-millimeter color work they had seen. The film has won a half-dozen important awards, including the grand prize of the 1938 contest of the Union Internationale du Cinema d'Amateur.

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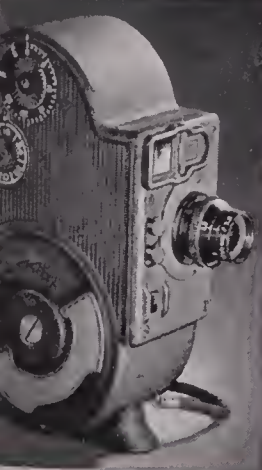
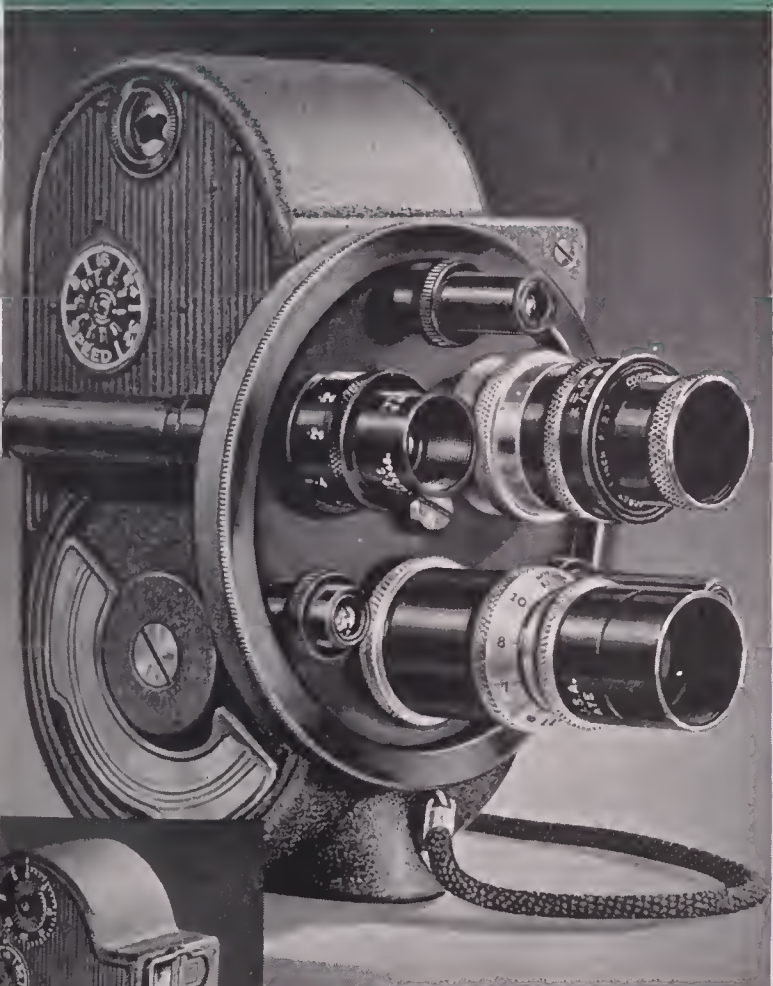
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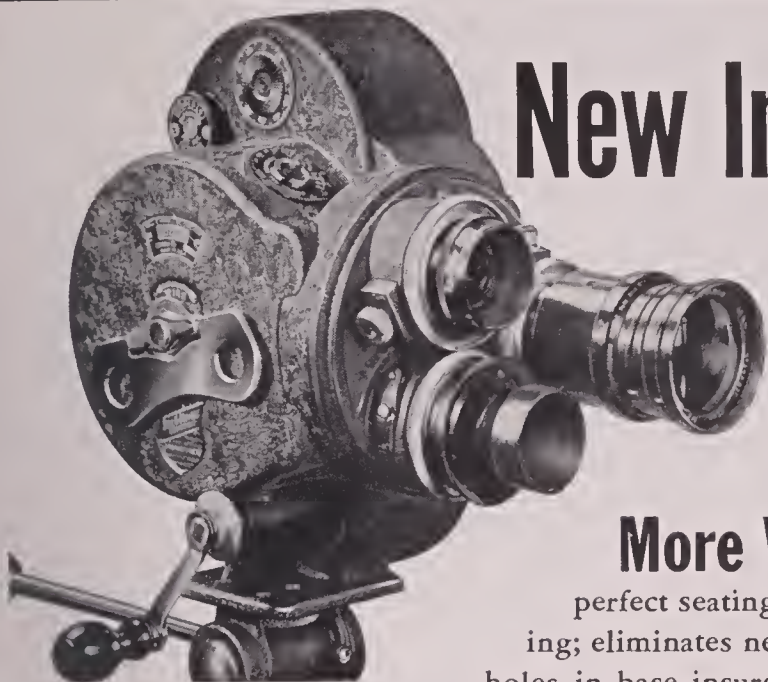
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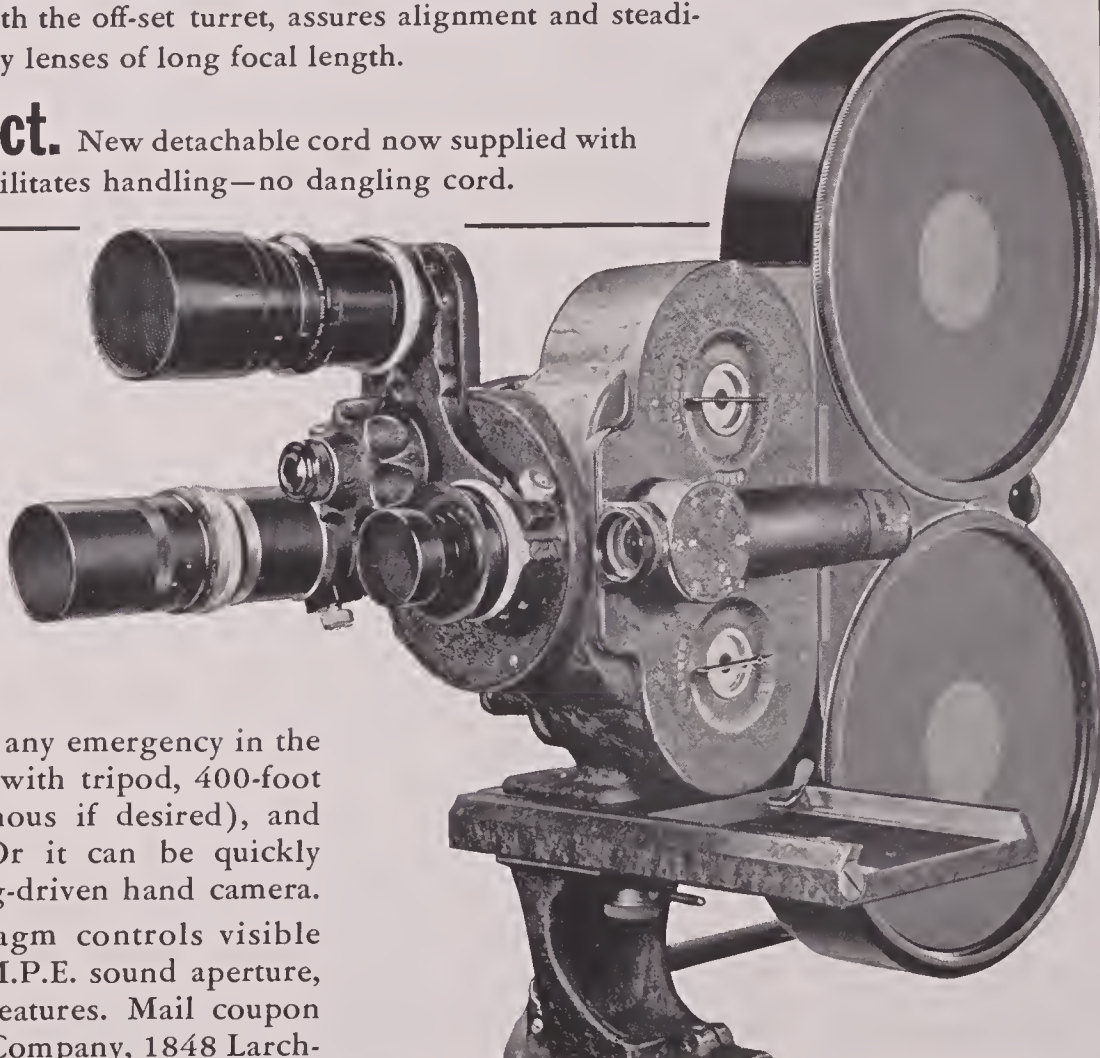
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June, 1939

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THE COVER

HERE is a scene from Twentieth Century-Fox's story of India, "The Rains Came." With Bert Glennon, A.S.C., in the chair, Tyrone Power and Myrna Loy are shown on horseback. The subject is directed by Clarence Brown. The still was exposed by Cliff Maupin.

Ziegfried Levy exposed this still picture of Margo and Walter Abel in Arcadia's "Miracle of Main Street," photographed by Charles J. Van Enger, A.S.C., for Grand National.

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Problems Faced by Labs in Australia

By EMERY HUSE, A.S.C.

*West Coast Manager Motion Picture Film Department
Eastman Kodak Company*

Technical Editor American Cinematographer

Emery Huse, technical authority on motion pictures, who has just returned from visit to Australia, where he paid especial attention to laboratory work.

IT was recently my good fortune to visit Australia, primarily to study the motion picture industry as it exists in Sydney, with particular attention being devoted to laboratory work. It was extremely interesting to study the technical side of the industry as well as to observe the reaction of the Australian people toward American motion pictures.

The motion picture industry is usually considered as being divided into the separate groups of production, laboratory, distribution and exhibition. The Australian motion picture industry differs from the American in one major respect, and that is production.

There has been and there is currently very little actual motion picture production, although one company does produce from time to time a feature length motion picture.

Australian Problems

Distribution and exhibition problems are not greatly dissimilar to those existing in this country. The laboratory side of the motion picture business as far as Australia is concerned, however, assumes major proportions because primarily the entire industry is hinged around the manufacture of release prints by five different laboratories.

These five laboratories variously han-

dle the work coming in from American and British producers. Their job consists of making prints for distribution from duplicate negatives. In some instances it is necessary for the laboratories to make the duplicate negatives from which they make their release prints.

It undoubtedly would be of interest to those connected with the local motion picture industry to get a little better picture of the problems actually confronting the laboratories in Australia.

Every laboratory in Australia uses developing machines of one kind or another. In most instances these are machines which had to be devised and built by themselves since it has been impossible because of high restrictive tariffs to import into Australia foreign mechanical equipment.

It was very gratifying to find that the laboratory men in Australia did not differ materially from the laboratory men in the United States. They are earnest, conscientious men striving to turn out high grade products for the screen. Their problems and troubles are quite comparable to those of an American laboratory.

They are not fortunate enough to have great volumes of work to keep their plants running continuously and

smoothly, as for any good picture only ten to fifteen release copies are necessary to cover the Australian distribution.

Currently, certain of the major American producing companies are submitting to Australia composite fine grain duplicate negatives from which release prints are made. With such material the job of the Australian laboratories is relatively simple in that they have only to make release prints.

Can't Do Impossible

Some of the other American producing companies are not doing a good job in this respect and submit either lavender master positives or, as in some instances, a black and white print, the quality of which is not of the best and most certainly not suitable for duplicating purposes.

When prints are submitted to the laboratories they must make duplicate negatives, and while the Australian laboratories do as good a job as can be expected it is impossible for them to improve upon the quality of the material as they receive it from their American principals.

As a result those American companies which do not give proper attention to their foreign markets are actually suffering by comparison with those ma-

for producing companies who are giving due consideration to this branch of their business.

While it can be argued that photographic quality does not necessarily sell a picture, it is definitely without argument that the quality of American goods in foreign countries is judged by visual quality as well as by other salable points.

Australia, like America, has many double feature bills in its theatres, and the difference between prints from those American companies giving thought to their foreign distribution and those which do not is outstanding and decidedly in favor of those companies doing the better job.

Australian Giving Break

The prints from those major companies submitting fine grain duplicate negatives are of very high quality, while those companies which submit only black and white prints or poorly made lavender master positives show very poor quality.

It should be stated here that considering the conditions under which the Australian laboratories have to work they are turning out an extremely satisfactory print quality. They are not gifted with new laboratory buildings, with new equipment, complete air conditioning and all of the many refinements which seem necessary in this country for good laboratory work.

Therefore, the job of the Australian laboratory man is even harder and requires considerably more care and attention on the part of the laboratory crew.

In view of all this he is giving the American producer a very good break and generally much better than some producers are giving him. There need be no qualms in the minds of the American producers that the foreign laboratories, particularly those in Australia, are not doing their part.

Sydney Theatre Town

To give some idea of the interest shown in motion pictures by the general public it should be stated that there are as many if not more major downtown theatres in the city of Sydney than there are in Los Angeles.

As far as neighborhood houses are concerned they are very numerous, too, and while Sydney does not cover the area that is covered by Los Angeles it nevertheless has a very comparable population.

It was my experience in attending some twenty-five theatres in Sydney that the programs were put on very excellently in theatres which were extremely comfortably built, with projection conditions as good as those in most American houses and with interest shown by the public as great if not greater than that shown in many American cities.

It would seem, therefore, that anything that could be done by the Amer-

ican producers to increase the quality of their own product in the foreign markets should be done.

The old adage "seeing is believing" is certainly true, and those producers who might feel that anything is good enough for their foreign markets should immediately amend those thoughts.

STRANGER IN NEW YORK

By GEORGE BLAISDELL

AFTER an absence from New York of fifteen years the big town does not seem the same place it used to be. Of course it has not changed so much. It is bigger and greater. There have been vast improvements in highways and bridges. Buildings are higher and wider. The subways? Insufferable. If any pilgrim is in doubt of that let him, alone and without a map, start at 9 o'clock of an evening at Times Square to make his way to some central point in Newark.

It's a long story. After being baffled by the absence of attendants who can give a stranger a tip, by closed ticket offices, by an absence of trainmen at their old posts between cars—perhaps two men to a train outside of the motorman—it may not seem unnatural if the stranger is forced to the conclusion that while New York may proclaim in great pride to the world it is the home of the marvelous Radio City it also should don sackcloth and ashes when the subway is mentioned. If in doubt ask one of the trainmen.

The National Photographic Dealers Association put on a great show in the Hotel Astor from April 24 to 27. Attending were 808 dealers and representatives, 601 exhibitors and representatives at 125 booths, and 7550 guests. At the banquet at the close of the week were present 664 guests. If you will turn to the centre of the book you will have a chance to count 'em.

The officers under President Charles Bass of Chicago already are sounding out members and exhibitors regarding another exhibit next April and inquiring as to preferences as to where it shall be held. They are asking if it is not to be held in New York what city is preferred. After all it is a big country.

One of the pleasures of the visit was the meeting, at the convention and at the offices of Movie Makers, of the men who make that magazine. Among these were Colonel Roy W. Winton, managing director; Arthur L. Gale, editor; Russell C. Holslag, advertising manager; Frederick G. Beach, technical editor; James W. Moore, continuity editor; Alexander De Canedo, art editor, and many others of the large staff.

There is some possibility of future picture production in Sydney. At this time it is difficult to say when or how much production will be attempted. At any rate there is a great desire for an Australian production industry, and since there is the spark of desire who can say what the future will hold?

Also there was a look-in on the print shop of the greatest newspaper in the world—The New York Times. This is not the place to tell the story of that print shop, but it is a tale that will have plenty of interest for every human who reads a newspaper. And yet less than fifty years ago that same journal was in the hands of receivers, its delivery equipment was limited to two wagons—Nos. 7 and 14—and the financial outlook for the publication was plenty blue.

Then on the scene entered a young man of thirty-six years from Chattanooga, already a successful publisher. Adolph S. Ochs quickly wrought a transformation. In a comparatively few months he was a nightly visitor on the composing room floor—ordering OUT ads. To a protesting printer he smiled. "Always give your readers a chance," he remarked.

It was not long before more presses were installed and the publisher was able to increase his pages from sixteen to eighteen without cutting the capacity of his presses in two. But that really was a long time ago.

E. B. Lang of New York makes a pertinent inquiry. He pleads inability to make sense of a story in which manifestly he was interested. That it may be clear also to others it will be necessary only to transpose the first four lines of Page 230 of the May issue to the top of the first column of Page 201 and the story of "Hollywood Engineer Designs New Type Meter" may then be intelligible. Thirty pages really is too much of a jump for a reader to surmount with ease, but like unnumbered other crimes parallel and worse the perpetrator never will be known. In fact, it is quite likely he is himself in complete ignorance of his "bust."

Another pleasure that rated high on the trip East was a visit to the home of the Duncan Littles. There is a home to delight the heart of the movie fan. It is entirely believable that in the City of New York there are few built on the same mold. As you step into the apartment you enter a great room that roughly must be thirty-five feet square and at least as high. On one

side is a set of portholes that supply the urge to get on the other side.

Later the opportunity is presented. Perhaps we may be able some time to print the pictures of these two rooms—the ones that serve so strikingly the purposes of theatre and projection room. In the latter, which of course is a projection room only by courtesy and on occasion, there is a section devoted to records. It is of sufficient size seemingly to supply stock for a good sized store. Also there is a place for every conceivable convenience of the amateur cine projectionist.

The Littles had put on a second showing of their Tenth Party at the request of the Photo Patrons Club of the East Side (Newark) High School. To this school had been invited the boys and girls interested in movie making in all high schools in Newark and surrounding territory. It was described as a party to be remembered.

"Married Man"

By J. ROY HESS

She tells me how to drive,
And she tells me how to walk;
She tells me what to eat,
And she tells me how to talk;
She tells me when to go to bed
And what I should prefer:
I wonder how I got along
Before I married her?

—Cinema Digest.

For the evening there had been a showing at the Newark Art Club. It was there we slid in late that night. As we stood in the doorway we were cordially invited to enter.

"I was looking for Mr. Little," the visitor said.

"Right here," came from a turntable.

"I'm just in from Hollywood."

There was a real handshake, followed by introductions.

It was then late, but it was much later when we bade good-night to the genial couple, with an agreement to meet three days later.

We shall make a real effort to get pictures of the Littles' Home Theatre.

●
An unusual experience was a tour through the great plant of the Spencer Lens Company in Buffalo. That this company is planning an expansion may be judged by the magnitude of the building just completed on a recently purchased twenty-three-acre plot of ground. It is 210 by 410 feet in area, with a power and heating plant in addition to that. The old building will continue in service.

Frank B. Good, A.S.C., Secretary-Treasurer

FRANK B. GOOD, A.S.C., from the first a member of the American Society of Cinematographers and almost uninterruptedly a member of the Board of Governors for the twenty years of the society's existence, is the new treasurer of the body. Since 1934 he has served as secretary. He now carries the added honor of secretary-treasurer.

It was in 1914 when the new treasurer took up camera work. His first engagement was with the Ford Sterling company, the star of which was affiliated with Fred Balshofer. The studio was on the northwest corner of Sunset and Gower, the site formerly occupied by David Horsley. It now is occupied by the imposing edifice of the Columbia Broadcasting Studio.

After this engagement Good went to D. W. Griffith's Majestic-Reliance Studio at 4500 Sunset Boulevard, where for two and a half years he photographed Norma Talmadge. Then he joined the William Fox company, the studio of which was in Edendale. Here he remained seven years. Then for five years he photographed all of Jacky Coogan's pictures.

He was several years at the Warner Brothers' Studio and then for three and a half years he photographed George O'Brien at the Sol Lesser studio. For Paramount's "Spawn of the North" several months were spent in Alaska making location shots on the great melodrama.

In these years Frank Good has seen and been a part of many advances in the photographic world. He has had his share of color, too, in Technicolor and with bi-pack. Among the Technicolor subjects which fell to him in the Warner studio were "On with the Show," "Song of the West," "Song of the Flame," "Sweet Kitty Bellairs" and "Viennese Nights."



Frank B. Good, Secretary-Treasurer A.S.C.

Why Not Stage Real Movie Party

By ORMAL I. SPRUNGMAN

*All flash pictures and 16mm. movie frames
enlarged by writer*

NOTE—We literally held the presses in order to bring you this timely, behind-the-scenes picture story of the Minneapolis Cine Club's Second Annual Movie Party, while the news was still hot. Perhaps other movie clubs in other parts of the country may be inspired to undertake similar public screenings as a result of this article.—Ed.

ON May 12, 1939—hardly a fortnight ago—one of the largest audiences in the country ever to attend an amateur-produced public screening again had an opportunity to witness some 3,000 feet of selected 16mm. monochrome and Kodachrome footage in the luxurious, capacity-filled theater of the downtown Minneapolis Woman's Club.

Among the more than 600 rabid amateur movie fans and their guests who managed to endure the Minneapolis Cine Club's two-hour Movie Party too few realized perhaps the weeks and months of planning and special preparation necessary to produce the smooth-flowing finished product.

It was shortly after the first of the year that Harold Bronson, program chairman of the local club and general chairman of the group's Second Annual Movie Party, issued the initial call for movie inspection.

Because of the large 8 by 10 foot screen size, only 16mm. entries could be considered, despite the fact that several excellent 8mm. productions were available. Films previously screened during regular club programs were recalled for consideration, and other footage varying from lengthy travelogs to newsreel and feature shorts literally swamped the program committee, which judged all entries.

Special Meetings Weekly

In fact, special meetings were called weekly, and two projectors were used

to show individual reels simultaneously on a split screen. Refreshments served in the various members' homes helped to stimulate interest in the club project.

Films were judged solely for their exposure, camera handling, subject matter and possible audience appeal. Exposure rated first attention, for a slightly underexposed shot blown up on an 8 by 10 foot screen would look doubly under, while a slightly overexposed shot was not nearly so noticeable. Correct exposure, of course, was most sought after.

Following the practice of professional theater presentations, the club's program was divided into three parts: Newsettes of Other Years, Feature, Fact and Fancy and Travelore.

Newsreel and feature shorts, running around 1500 feet, filled the first reel. The second big reel handled only the travel stuff, including a special experimental subject.

Variety in treatment and subject matter was the keynote of the newsettes. One club member had filmed a Kentucky coal mine fire at night. Another had resurrected some priceless scenes, taken more than a decade ago, showing Zona Gale piloting her father's train, the "William Crooks," now on display at the New York World's Fair.

There were sport shorts on air maneuvers, midget auto racing, boxing and even human moles tunneling 80 feet beneath the city's streets.

Wide Variety

One local amateur had filmed a Jimmy Lynch thrill show, capturing the actual head-on crash of two fast-traveling cars, and a singleton plunging through a blazing wall. Another had filmed the

humorous frolic of some of Oregon's wobbly legged lambs.

Among the Kodachrome newsettes were closeups of tropical fish in a home aquarium, illuminated only by window sunlight; slow motion golf against a cloud-fluffed background, and downtown street signs in color at night.

Carroll Davidson, last year's program chairman who first suggested the Movie Party idea, had devised a special metal arm for his movie camera to accommodate an overhead photoflood in reflector.

A range finder also was fitted to the arm, including a homemade exposure scale for distances and several coils of extension cord. During the 1938 movie party he had wandered at large shooting candid closeup of guests entering the auditorium, as well as operations on the stage and in the booth.

This footage, along with similar stuff exposed at the club's Christmas party, was included as a newsreel sidelight for a personal touch.

Featurettes which were too long for the newsreel, yet too short for the travel department, also found a spot, and these included lei-making in Minneapolis, a Black Hills pow-wow, the Livingston Round-Up, Grand Canyon scenic study, Yellowstone waterways and wildlife, Babes in Movie-Land, and a short skit, titled "Vanishing Cream."

Oriental Formula

This scenario, revamped from one published in the new Eastman book, "How to Make Good Movies," concerns a cine club president who buys a new type vanishing cream for his wife, finally trying it on his own chapped hands. That evening the boys from the movie club drop in for an informal get-to-



Members of the program committee of the Minneapolis Cine Club, ready to inspect films of possible Movie Party caliber. A flood of entries later required two projectors for throwing two pictures simultaneously on a split screen to speed judging. George Culbertson, who aided with sound synchronization, is shown kneeling as he threads projector.



gether, and each is greeted with a cordial hand-shake.

One by one, during the evening, the boys begin to vanish. When all the guests have disappeared via thin air, the club president suddenly remembers about that jar of cream, which he fetches promptly. Inspected closely, the label reads, "Oriental Formula," and as the prexy raises his hand to his perspiring brow, he too vanishes as "The End" fades in.

This skit, which offers numerous other angles, was filmed indoors on a rainy Sunday morning. To give the illusion of a rapid disappearance, both camera motor and scene action were halted momentarily while one of the actors stepped out of the picture, then filming resumed.

Baby movies hold almost universal appeal, particularly among the women, and much more footage was devoted to baby subjects than heretofore. This was combined under the general heading, "Babes in Movieland, an Intimate Closeup of Club Member Offspring." A sample subtitle, for instance, would read something like that in the next column.

In the Travelore section, Leslie R. Olsen, former club president, contributed a well-exposed 400-foot California feature, covering the Santa Anita races

Left, special telephone communication was maintained at all times between stage and soundproof projection booth.

Right, Dr. Leonard Martin at the controls. Sound discs as well as musical recordings were played on dual turntables with three pickup arms.

and a preview of the Golden Gate International Exposition.

Falconer Thomas kicked in with a 300-footer on musky fishing in Lake of the Woods, while Dan Billman, Jr., whose West Indies reel, "Black Cousins," was described in last month's American Cinematographer, furnished an abbreviated version of Hawaiian Honeymoon,

Dr. & Mrs. Reinhold Ericson
present
JOHN
Age: Two years

boiled from a 1200-foot feature down to 400 feet. Hellroarin' Heaven, the editing of which was covered in February AC, closed the program.

To fill the gap between two longer features, a short novelty movie number was introduced in the form of an experimental attempt at lip synchronization. This was created by filming a vocal as well as an instrumental trio going through lip and arm movements while a recording of Decca's "Down by the Old Mill Stream" was being played simultaneously.

Since no synchronization was possible

Left, 16mm. color frame enlargement from Stanley Berglund's "Babes in Movieland" sidelight.

Right, 16mm. frame enlargement of main title for "Vanishing Cream." While camera motor spins, cold-creamed hands lower over wording for dramatic effect.

between camera and turntable motor, careful editing and varying the projector speed brought about reasonably good synchronization, which proved to be one of the show's sensations.

Editing and Titling

The manner in which amateur movie reels can be built around musical recordings, such as this one, will be described and pictured at length in the July issue.

Editing and titling also played an upper role in the preparation of the final reels. Few were the acceptable entries which did not require the elimination of one or more scenes or a slight change in continuity. Some of the newsreel briefs were salvaged highlights from much longer features.

No film was altered without the owner's permission, and where such permission was not granted, the entire contribution was rejected with thanks. Every effort was made to include only the best exposed footage, and film judges made no compromise.

Rome Riebeth, club secretary and editor, constructed a homemade titler in his workshop to permit zooms, flip-overs and other tricks, and this was used for filming the introductory, double-exposed main titles, hand lettered by Ray Rieschl. The balance of the titles were





type-set and photographed on appropriate backgrounds by a New York titling concern.

Fitting music to this conglomeration of scenes and sequences was no easy job. With few exceptions, none of the movies had ever before been played with music, and the sound staff labored hard through one solid week of rehearsals preceding the final screening. Numerous recordings were suggested, tried and discarded.

Music Fooled 'Em.

The final music was selected from more than a hundred recordings. In fact, the presentation was so smooth and perfectly timed that some of the audience actually thought that the entire film carried its own sound track.

Dr. Leonard Martin, 8mm. enthusiast, utilized homemade dual turntables with three pickup arms for playing the background, ably assisted by George Culbertson, sound technician of last year's Movie Party who recently joined the staff of radio station WCCO.

Mr. Rieschl, who has just invented and patented a revolutionary device for 8mm. Filmos to permit fades and dissolves, handled the natural, man-made sound before a microphone. The simple manner in which these sounds were created to supplement disc recordings often stumped even the experts in the audience.

Left, This unique titler, permitting zooms, fades and other tricks, was built by Secretary Rome Riebeth (right). Ray Rieschl (left) handlettered main titles. President W. R. Everett (center) gives his final okeh.

Right, Carroll Davidson, seated in audience, advises booth of sound reception and projection. Special telephones were used.

The realistic thump-thump of boxing gloves was recreated perfectly by finger drumming the microphone, the face of which was covered with a slipover dish cover. Campfire licks of flames were made natural sounding by crinkling celophane close to the mike.

"Plop" of Golf Ball

The properly timed "plop" of the golf ball was imitated by tapping the mike sharply with a pencil during the down stroke of the club—a stunt originally used by Hamilton Jones, Hiram Percy Maxim award winner, during his public presentations of "Western Holiday."

In the pony racing scenes Rieschl aped the light beat of horse hoofs on dirt by finger-thumping his chest in rapid action, synchronizing his speed for any gait. The baa-ing of sheep and a horse's whinny were done by mouth, while a real duck call was used before the mike in a brief duck hunting sequence.

Among sound effects records employed were fanfare, fire and screaming sirens, trains, airplane motor, traffic noises, waterfalls, baby crying, steamer whistles and harbor sounds.

An outboard motor recording was

made even more realistic by touching the edge of the revolving disc with varying finger pressure to reproduce the underwater tones of a gurgling motor.

Ear phones were worn by the projectionists as well as the sound men in the projection booth in order to watch synchronization even more closely. Such phones were essential during the screening of the novelty, "Down by the Old Mill Stream," which called for both eye and ear work.

Dealers Helped

Minneapolis camera stores voluntarily supported the show in many ways. The local Eastman store loaned equipment and donated film for special jobs, expertly filmed by Arthur Schwartz, charter member of the Minneapolis Cine Club and the oldest movie maker in point of actual filming in the Northwest.

Leigh, Inc. took care of title costs. National Camera Exchange loaned a costly 1200-watt Bell & Howell sound projector. The Da-Lite Screen Company furnished an 8 by 10 foot beaded screen, mounted on special tripod supports. The Amateur Cinema League of New York City sent in cuts and program ideas. A local letter agency gave the tickets.

With such unselfish cooperation, it



Left, 16mm. monochrome frame enlargement from Carroll Davidson's Jimmy Lynch thrill show, which was newsreel feature.

Right, 16mm. color frame enlargement from Monroe Killy's Black Hills Indian Pow-wow.





To swing projector for smooth right angle turn for title background, machine was set atop swivel chair. Ray Rieschl (left) assists, while Edward Johnson, sprawled on floor, does manual labor.

would have been disappointing if the Second Annual Movie Party had not been a success. To defray auditorium costs and other incidental expense, each of the group's 75 members was assessed \$1.50, for which he received eight tickets.

Additional ducats could be obtained only from members who had extras to sell. Remaining tickets were given to the press and cooperating firms and individuals.

Already members have begun talking about next year's Movie Party, and several individuals are planning special movie stunts in forthcoming months to insure a place for their reels when the final selection is made.

Nobody knows what the Minneapolis Cine Club's next Movie Party will hold in store for its guests. A good many thousands of feet of movies will probably ramble through local cameras before 1940 bows itself in. A new program chairman will take the reins by that time, and the Third Annual Movie Party will be *his* baby—and his special worry.

Kalart Holds Contest

A photographic contest with \$250 in cash prizes has just been announced by the Kalart Company. Twenty-five awards of \$10 each will be paid for the best pictures taken with a Kalart Micro-matic Speed Flash. There are no restrictions as to type of flash pictures, time when picture was taken, etc. The closing date is December 1, 1939.

Prints must not be smaller than 2¼ x 3¼ nor larger than 11 x 14. Enlargements and contact prints are acceptable.

Program Chairman Harold Bronson (left) shoots the main title of the skit, "Vanishing Cream." See 16mm. frame enlargement of actual title filmed showing how hands lowered over title eard add unique effect.

General Electric Flashes World's Brightest Light

On the night of the opening of the New York World's Fair, April 30, more than forty-two million lumen-seconds of light—equivalent to the combined illumination output, for the duration of a second, of a 100-watt reading lamp in each of 27,392 homes—were emitted by a combination of twenty-four "flood-flash" lamps and 100 large-sized photo-flash lamps mounted at the 500 and 320 foot levels of the Trylon.

The "flood-flash" lamp, a special development of the General Electric Research Laboratories at Nela Park, Cleveland, employs a striking characteristic of the unique 100-watt mercury lamp; namely, its ability to withstand an untold number of sudden, powerful "doses"

of electrical energy, to each of which it responds by emitting a brilliant, lightning-like flash. These flashes can be made to occur at frequencies as close as 1/60th of a second.

If desired, a peak brilliance of several million lumens can be produced with each flash. At the Fair's ceremonies, each lamp produced a million lumens. (A lumen is the amount of light required to illuminate an area of one square foot to an intensity of one foot-candle. A foot-candle is the amount of light cast by a standard candle on an object held one foot away from it.)

Kodak Issues Advice

Available without charge through Cine-Kodak dealers, Eastman Kodak offers moviemakers compact advice and four useful exposure tables covering the four most used types of lighting for indoor filming.

The folder discusses filming by regular daylight, by a combination of daylight and daylight photofloods, by regular Mazda lighting, and by Photofloods in Kodaflectors. Exposure tables give data not only for black-and-white Cine-Kodak films, but also for Cine-Kodak Kodachrome. Diagrams supplement the concise text, and show how camera and light sources are best placed.

A new lens in the Ektar series of Kodak Anastigmats—the Kodak Anastigmat Ektar f.3.7, with an equivalent focus of 4½ inches,—is announced from Rochester by the Eastman Kodak Company.

The new lens covers a 2¼ by 3¼ film or plate at full aperture.



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TELEVISION HIGHLIGHTS ENGINEERS' CONVENTION

By WILLIAM STULL, A.S.C.

TELEVISION highlighted the closing session of the spring convention of the Society of Motion Picture Engineers. Actual television demonstrations, participated in by the Hollywood Television Society, and a group of practical papers in which leaders in the television field discussed practical problems currently encountered in American television broadcasting comprised a closing program for which the Engineers' papers committee, Editorial Vice President J. I. Crabtree, Convention Vice President W. C. Kunzmann, and the ever-efficient program organization and management of Editor Sylvan Harris deserve unbounded credit.

Dealing with a subject usually treated either as an imminent menace to motion pictures or as a development of the distant future, the report of the society's television committee, chairmaned by Dr. A. N. Goldsmith, struck a commendably sane note.

This report stated in part that "The result (of the committee's preparatory work) is not forthcoming at this time in specific form because of several reasons: first, it is necessary that the committee and its sub-committees adjust their viewpoint with respect to the relation between the motion picture industry and the television art; second, most of the subjects engaging the attention of the committee are long-term projects; and, third, the television art is in so marked a state of flux at the present time that great care must be taken to differentiate between accepted practice and transient developmental steps.

Sticking to Facts

"In reporting on the state of the art it is the purpose of the committee to avoid causing undue or unjustified concern to the motion picture industry or giving inaccurate ideas as to the immi-

nence of large scale commercial television developments or the mode of utilization of the products of the motion picture industry.

"As a matter of policy, only factual matter is to be included in these reports, opinions being avoided so far as possible; and no attempt is to be made at any time to issue either reassuring or alarming statements or non-technical generalities.

"It is hoped to avoid conflicting standards or practices in the two arts . . . Reports will be made at timely intervals, as developments may direct. The first aim of these reports is to be historical and instructional, the second to guard against misunderstanding, misstatements in the press, unnecessary conflicts of aims or opinions. The third is to act as one guiding agency, furthering interchange of mutually helpful data.

"The characteristics of iconoscopes (television photosensitive tubes. ED.) have been changing as new and better models were produced. These changes affected the lighting set-ups, the lenses, the treatment of the sets and other phases of production technique, and any report that might be made at the present moment might be obsolete and misleading by the time it reaches the members of the society.

Lubcke Discusses Production

"As a basis of a temporarily acceptable policy for the industry, the opinion appears to be that the present motion picture standards are acceptable for television and that television will try to work toward those standards.

"There are differences, however, between the requirements of the television art and those of the motion picture art. Some time will probably pass before production and reproduction technique of television will reach a stage of

stability such as to permit a determination of standards of production."

One of the most interesting papers was that presented by Harry R. Lubcke, director of television for the Mutual-Don Lee Broadcasting System. Shortly before, the regular Friday night television program from the Don Lee television station W6XAO had been viewed by the members on three television receivers set up in the exhibit rooms by members of the Hollywood Television Society, two of the receivers being home-built instruments, and the third a commercial Dumont receiver.

Lubcke's paper, entitled "An Introduction to Television Production," stated in part that "in writing scripts, cognizance is taken of the fact that large and elaborate sets are beyond the present scope of television economically, if not otherwise, and that physically impossible action must not be imposed upon the cast.

"Through the use of miniatures, however, otherwise impossible action has been televised.

"We have found that real properties invariably televise satisfactorily, although suitable illumination may be required for emphasis. In painted properties, such as background, windows and fireplaces, the delineation of the object from the general tone of the background should be sharp and the width of the line comprising the structures bold.

"For multi-character scenes, the longshot is often used with complete settings, such as a room, which may assist in the story. If small items of interest are to be displayed, however, the scene may be modified from what would normally be a longshot to one showing only half or two-thirds of the principals involved.

Lighting Counts Heavily

"One scene may be changed into the other by moving the camera or by moving the principals. Changes from longshot to closeup may be made once or twice during an episode. Changes of scene are usually accomplished by panning, under which conditions two sets are established on opposite sides of the general stage area.

"The technique of lighting for television appears to be one of the most fruitful in creating pleasing artistic effects. So-called 'flat lighting' will give television pictures, but ones which have little interest and sparkle compared to those televised with more elaborate lighting.

"The advance in technique appears to be only limited by the number of lighting units available and the possibility of maneuvering them as required for the changing conditions brought about by motion of the performers on the set. This problem is complicated by the fact that in television illumination must be continuous for the total duration of the act.

"In our studio a portable switching panel is installed which gives control of individual or limited groups of all

the lights utilized. With this device the lighting supervisor can vary the lighting considerably without touching any unit.

"This control is usually supplemented by changing diffusers, changing the angle of the unit, and/or change of position of mobile units by lighting assistants.

"Hard back lighting has been found to be a very desirable component in the lighting pattern. This must be supplied by lens-reflector units of the type of the Mole-Richardson 210. General lighting is properly supplied by lamps in dull finish reflectors, and modeling lights for the face must be diffused with one or more diffusing screens.

Pure White Light Ideal

"The camera photoelectric tube suffers a form of overload similar to overexposure if the illumination on the subject is too great. This usually occurs first on the faces of the performers.

"This condition is eliminated by either reducing the amount or hardness of the light or by stopping down the lens aperture. It has further been found that the spectral characteristic of the light exercised an important effect upon the resulting image. A pure white light is the ideal.

"Make-up is also a factor. A base paint approximately No. 29 Panchromatic is used as a start. Eyebrows are accentuated with black or dark brown lines. Lipstick of a brownish-violet shade is applied.

"This color has been found desirable after considerable tests in performance with red lipstick, because the camera tube exhibits increased sensitivity in the red region of the spectrum and because red light energy is particularly predominant in the incandescent illumination utilized."

Protzman on Technique

Television studio technique was discussed by Albert W. Protzman of the National Broadcasting Company, who in discussing the New York NBC telecast methods said in part:

"Television technique and apparatus constantly advance. Some technique now current may be outmoded in a day or a month. We have only to recall the early days of motion picture production, when slow-speed film and inferior lenses were a constant limitation.

"So with television it is already possible to envision more sensitive pick-up tubes which will permit the use of lenses of much shorter focal length, thus eliminating many of today's operating difficulties.

Thomas S. Lee, left, president of the Mutual Don Lee Broadcasting System, largest regional network in the United States and owner of W6XAO, only telecasting station in the eleven states west of Kansas. Right is Harry R. Lubeke, inventive genius and system director of television, holding a fourteen-inch cathode ray tube. Photo by "Dick" Whittington.

"In May 1935 the Radio Corporation of America released television from its research laboratories for actual field and studio tests. From the stage came the formula of continuity of action, an inherent basic requirement of television. From the motion picture studio came many ideas and techniques. If television is a combination of pictures with sound—and it is, no matter what viewpoint is taken—the result spells in part a motion picture technique at the production end.

"However, enough already has been said about the peculiarities of television presentation to justify saying that movie techniques do not supply the final answer. There remained the major problem of preserving program continuity without losing too much of motion picture production's flexibility.

Studio Dimensions

"Physically our live talent studio is 30 feet wide, 50 feet long and 18 feet high. Such a size should not be considered as a recommendation as to the desired size and proportions of a television studio, as it was formerly a radio broadcasting studio and not designed for television. Yet in spite of the limited space, some involved multi-set pick-ups have been successfully achieved.

"Sets are usually placed at one end of the studio. Control facilities are located at the opposite end in an ele-

vated booth affording a full view of the studio to the control room staff.

Any small sets which supplement the main set are placed along the side walls as near the main set as possible, and in such position as to minimize camera movement. At all times we reserve as much floor space as possible for camera operations and such floor lamps as are absolutely essential. At the rear of the studio is a permanent projection room for background projection.

"The studio is at present fitted for three cameras. To each camera is connected a cable about 2 inches in diameter and 50 feet long; it contains 32 conductors including the well-known coaxial cable over which the video (picture) signal is transmitted to the camera's associated equipment in the control room.

"One camera, usually the long-shot camera, is mounted on a regular motion picture type dolly to insure stable movements. It is impractical to lay tracks for dolly shots because usually each camera must be moved frequently in all directions during the televising of a studio show.

Camera Doubly Equipped

"The other studio cameras utilize a specially designed mobile pedestal. These are very flexible and may be moved in and out of position by the operators themselves. Built into the pedestals are



motors which elevate or lower the camera controlled by push-buttons. A panning head similar to those used for motion picture cameras is also a part of the pedestal.

"Each camera is equipped with an assembly of two identical lenses displaced 6 inches vertically. The upper lens focuses the image on a ground glass which is viewed by the camera operator. The lower lens focuses the image on the 'mosaic,' the iconoscope's light-sensitive plate.

"Lenses with focal lengths from 6½ to 18 inches are used at present. Lenses of shorter focal length or wider angle of pick-up cannot be used since the distance between the mosaic and the glass envelope of the iconoscope is approximately 6 inches.

"In television, the camera operator must do the focusing for fixed shots and dolly shots alike. This added operation, at times, is quite fatiguing.

"Because several cameras are often trained on the same scene from various angles, and because all cameras are silent in operation, performers must be informed which camera is active at the moment. Two large green bullseye signal lamps mounted below the lens assembly are lighted when the particular camera is switched 'on the air.'

"A much greater amount of key light is required in television than in motion pictures. Also a television set must be lighted in such a way that all the camera angles are anticipated and properly lighted at one time.

"Great care must be taken to gobo stray light from all camera lenses. This task is not always easy, since during a half-hour performance each camera (of the three used) may make as many as twenty different shots. A direct beam of high intensity light may temporarily paralyze a tube, thus rendering it useless for the moment.

"Television sets are usually painted in shades of gray. Color in sets is relatively unimportant. Chalky whites are generally avoided. As in motion picture production, sets must be rendered in considerable detail, as real and genuine as possible; a marked difference, for instance, can be detected between a painted door and a real door.

Sets Should Be Light

"Sets also must be designed so they can be struck quickly with a minimum of effort and noise because it is often necessary to change scenes in one part of a studio while the show is going on in another part.

"The problems of background projection in television differ somewhat from those in motion pictures. More light is necessary because of the proportionately greater incident light used on the sets proper.

"Considering the center of a rear-screen projection as zero angle, we must make it possible to make television shots within angles of at least 20 degree angles to either side of zero degrees without appreciable loss of picture brightness.

"This calls for a special screen having a broader viewing angle. Also the background picture size cannot be changed once the program starts. Our background must be sharp and high in contrast for good results.

"At present, glass slides are used. A self-circulating water-cell is used to absorb some of the radiant heat from the arc. Also both sides of the slide are air-cooled. This permits the use of slides for approximately 30-minute periods without damage.

"It never has been necessary to use gruesome make-up for the modern all-electronic RCA television system. At present No. 26 panchromatic base and dark red lipstick is being used satisfactorily.

"All camera operators wear headphones through which they receive instructions from the control-room, where the televised images are observed on special kinescope (cathode-ray tube) monitors.

"The camera operator has no control to switch his camera on the air. All camera switches, which are instantaneous, are made by electric relays in the control-room. At present, the video-engineer's counterpart in motion picture work is the film editor.

Television Has Its Mike

"As in motion picture work, a microphone boom is used in television production. In the television studio at least one camera is always set for a longshot while others are placed for closer shots. We therefore place the microphone in position just outside of range of the longshot.

"In order to accomplish some sense of perspective a variable equalizer automatically is cut into the audio circuits when the longshot camera is on the air. When a closeup camera is switched in the audio returns to closeup perspective quality once more.

"Continuity is so planned that while one camera is taking the action another camera is moving to a new location and composing a new shot to be switched on at the proper time. This frees the first camera, which can now move to a third location, and so on.

"Sometimes during a 20-minute performance each camera may take 20 different shots. Frequently there are outdoor scenes. These are filmed during the first stages of rehearsal for transmission from the film studio at the proper time during the performance.

"The switch to film is handled exactly as another camera switch except that the switch is to the film studio instead of to one of the live studio cameras. When the film is completed the studio cameras again take over the next interior scene."

Television Lighting

What is probably the first detailed discussion of the methods and equipment used in television lighting was given by William C. Eddy of the National Broadcasting Company in his pa-

per on "Television Lighting." Some of the more important statements in this paper follow.

"Starting with studio lighting equipment similar to that used in moving pictures, we have gradually evolved a reasonably satisfactory solution of our illumination problem which has resulted in a new layout of equipment applicable to the demands imposed by television studio operation.

"Of necessity, the light produced had to be a high level diffused illumination in quantities encountered only in the color film studios. In addition, television required that the operation, upkeep and maneuvering of this light be of such simplicity that one or two men could satisfactorily handle routine productions.

"We naturally turned to the standardized fixtures of the moving picture lots for our first tests. In the Radio City Studio we installed routine spots and broads. Due to the limitation of a 19-foot ceiling a practical light bridge was out of the question. As a substitute the major portion of our lighting equipment was installed on portable stands.

"Our next step was a gradual conversion from the concentrated type of unit to the more diffused and uniform light produced by scoop reflectors and floor broads. Focusing spots and suns were still maintained in the studio, but their function was limited to modeling rather than producing the fundamental illumination.

Impracticability Proved

"Lack of physical space for operation, weight and their general inefficiency coupled with unbearable glare on the set soon proved their impracticability even though the unattended light produced by high efficiency lamps met the requirements of the production staff.

"Our next experimental step toward a television lighting system came with the installation of a battery of 120 500-watt units, each equipped with separate reflector and lens systems. These lights were positioned on a gridiron over a single set in such a manner that they would produce a cube of uniform, non-directional illumination which, it was hoped, would approximate the character and modeling under high intensity diffused light.

"Needless to say, the resultant picture showed the effect of flat front lighting. Again the spots and suns were brought out of the storeroom and put into operation as modeling units in an attempt to create above this pedestal of 1500 foot-candles the highlights and shade that had been destroyed by the basic arrangement of the foundation light installation.

"Photometric tests conducted in the studio had indicated that the new inside-silvered spotlight would deliver more light into an area per watt consumption than the lens lamp and reflector assembly or the standard incandescent bulb and exterior scoop.

"It remained to design a fixture which

would permit of simple adjustment in elevation and direction to satisfy the requirements of multi-set productions proposed by the program staff.

Light Beams Interlock

"This incorporates six 500-watt spotlights in a framework of thin-walled steel tubing so arranged that the center-to-center distance between lights is 10 inches. This insures that the light beams interlock at a distance of 8 feet from the fixture and that the light arriving in the set is relatively free from spots and secondary shadows.

"The total weight of this fixture, equipped with spots, is slightly less than 19 lbs., and lamped for 3 kw. produces an index of 18,000 units compared with an index of 7650 units registered by an equivalent grouping of lens lamp and reflector units.

"The mechanical arrangement for flexibility consists of a universal clamp for attaching the supporting arm to the gridiron, with rotational freedom possible at the fixture itself. A single adjusting screw allows the operator to set the bank for any desired angle or direction of throw with the framework arranged either horizontally or in a vertical position relative to the studio floor.

"The first of the standardized installations consisted of 18 of these 'single-six' units mounted on the gridiron in such a manner that they could quickly and easily be brought into play on any acting area selected by the production group. As a space-conserving measure a few of these long units were reassembled in two rows of three and designated as 'double-threes.'

"This type of construction was later installed in portable stands for use as floor broads. The 'single-three,' identical with one-half of the 'single-six' was next brought into use.

"The floor broad already referred to is identical with the overhead array except that it is mounted on a portable floor stand. Two of these units are used normally as reinforcing units from stage right and left to create a rough modeling angle or to temper the shadows on the back-drops.

"Our modeling equipment is completed by the addition of two other units, the portable footlight and the hand lamp. This floor light, working with and ahead of the closeup camera, is maneuvered to properly highlight the subject from this camera angle.

Select Camera That's Best

"It is impossible, of course, to light each shot of each camera from the optimum angle in a studio where we find the duration of pick-up from a single camera sometimes a matter of seconds.

"We have therefore made it a practice to work toward the camera that best displays our wares, after making sure that the foundation lighting over the set is so arranged as to supply satisfactory illumination for the other cameras.

"We do not attempt to approach the

contrasts common on the stage or in moving pictures. In television we are confronted with a highly compressed contrast range that permits modeling, to be sure, but also holds as a penalty a washout or complete black.

"This has not restricted the use of modeling light, the trend on the other hand being toward the greatest contrast that the electrical system will accept, in preference to the flat, non-dimensional pictures of past years.

"Our failure to mention backlighting does not mean that we have overlooked the possibilities of this type of illumination. On the studio sets we have yet to arrive at a reasonable system of backlighting that will answer all of the requirements of flexibility, weight and operation.

"There have been many statements and many more conjectures as to the light used in television studios. We quote pertinent figures based on our last six-month period of operation. Our average modeling ratio was 2 to 1, while the average light-load was slightly over 50 kw. of 110-volt DC.

"Our lowest foundation lighting level was 800 foot-candles, in a play in which the contrast throughout was carried to the upper limit of the iconoscope. The highest foot-candle reading recorded was slightly over 2500 foot-candles, a continuity where, obviously, little modeling was attempted.

Wide Range

In the discussion following this paper comments by Hollywood cinematographers and lighting engineers brought out the interesting fact that in modern studio cinematography the key-light level (as distinct from the lower foundation-light mentioned) averages, according to the scene and the methods of the individual cinematographer, between 50 and 200 foot-candles for monochrome.

In other words, due to the sensitivity characteristics of present iconoscopes, their physical size and the relatively small apertures ($f:4.5$ to $f:5.6$) used to obtain focal depth, present television

B & H Issues Screened Tale of How Cartoons Are Made

Everyone who has ever seen a cartoon movie has wondered how such spirited action can be made from a number of still drawings. Nearly every Hollywood visitor has endeavored (without much success) to crash the studio gates to see cartoon movies in the making.

Now the veil of mystery is lifted by Lowell Thomas in the Universal 16mm. film "Cartoonland Mysteries," available on rental from the Bell & Howell Film-sound Library. In this film the making of an Oswald Rabbit cartoon "Softball Game" is explained in interesting and hilarious detail.

For information write Films Division, Bell & Howell Company, 1801 Larchmont avenue, Chicago.

requires at least ten times as much light as motion picture photography.

On the other hand, television-expert Lubcke told of an instance in the local Don Lee studio where a lighting overload blew the fuses controlling the lighting during a production, leaving only a single 500-watt lamp, on a different circuit, burning in the studio.

Under these conditions, he stated, while definition was of course destroyed, a recognizable outline or silhouette of the image was none the less picked up by the television camera and telecast.

Pleads for Flexibility

One of the most important papers of the convention was that presented by Allen B. Dumont of the Allen B. Dumont Laboratories, the television firm in which the Paramount studio has become financially interested.

Dumont pointed out that while since the inception of radio broadcasting enormous strides have been made in sound quality, the earliest crystal-type receiver is still capable of receiving an intelligible signal from even the latest ultra-high-fidelity broadcast.

This, he stated, was not the case in the present planned television standards, in which the control of picture frequency, number of scanning lines, and other vital factors is built integrally into the receiver.

As Dumont stated, "It is obvious, therefore, that at some future date our present-day so-called high-definition television will compare only with the crystal detector, headphone days of radio. At that time, however, there will be a tremendous investment by the public in television receiving equipment, and the obsolescence of such an investment will not be cordially received.

"It is necessary, however, that such changes take place, and the problem of the present-day engineer is to design his receiving equipment in anticipation of such changes."

In answer to his own criticism Dumont suggested that the design of television receivers be standardized in such a way that control of picture-frequency, scanning and other quality-affecting phases be controlled, not by the basic design of the receiver, but by the synchronizing signals transmitted with the picture from the telecasting station.

Excellent proof of his contention was offered by the Dumont television receiver in the Hollywood Television Society's exhibit. This receiver was apparently designed to receive the 440-line scanning of the NBC telecasts in the New York area.

It had had to be specially adapted—and none too successfully—to receive the 330-line images of the local station.

With one and possibly two other stations contemplated locally, each built to different systems, Hollywood residents should shortly have an opportunity to test the truth of Dumont's thesis, for it is understood that a receiver built to accept images of one television system will receive those sent by other systems poorly, if at all.

TRIPLE SUCCESS

THREE good reasons why Eastman's three new films enjoy continued success: The outstanding special features they bring to their particular jobs....The unsurpassed photographic quality they impart to every scene....The priceless assurance of reliability they give to the whole motion picture industry. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

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for all difficult shots

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for backgrounds and general exterior work

IMPROVED WILD CINEMOTOR DEVELOPED

By REED N. HAYTHORNE, A.S.C.

A NEW and improved wild cinemotor has just been developed that should be an innovation to all cinematographers. It is small, compact, and complete in every detail. Nothing has been overlooked.

Heretofore the wild motors that have been used by various cinematographers all over the world have had some little detail missing. For instance, the range of voltage is not sufficient, there has not been enough spare power, the clutch would not work smoothly enough, the rheostat would wear, the tachometer (if the motor was equipped with one) would be large and bulky, the weight would be equal to that of a synchronous motor, etc.

This new motor is very light in weight, although it is constructed very sturdily. It weighs only 6 pounds 4½ ounces complete. This includes tachometer nose piece adapted for any of the standard makes of professional motion picture cameras but not the cables.

Constant Speed Cinemotor

It is a constant speed cinemotor of universal type employing a new and radical design for governing the driving member. The governor is unique in type—it is positive and supersensitive in operation. The principle employed is the governing of the camera driver, allowing the motor to run wild, transferring the power of the motor to the camera through medium of a slipping clutch.

The difference in ratio between the motor speed and the camera speed is taken up by the slip of the clutch and at the same time the ratio is calculated so that at no time does the motor assume the full load. The governing mechanism is located on the camera end of the driving member.

When set for a determined speed the clutch cuppling varies in slippage relative to the camera load, which means that the variations of the load in the camera are accepted by the governor, which in turn alters the tightness of the clutch. This construction assures the cinematographer of a most constant camera speed at all times.

The speed regulator is very large, easily accessible and is extremely sensitive. The tachometer is small and is built into the motor. It is adjustable according to the position of the motor on the camera. The tachometer will operate both forward and backward.

Motor Durable

The motor itself is durable and capable of taking high voltage for comparatively long periods of time without burning out. All of the windings are cured in bakelite to insure long life and hard wear under all temperatures and conditions. Although small—only a one-twentieth horse power motor being used—it has sufficient strength to drive any camera at various speeds in any temperature.

The motor will run forward or reverse without difference in speed, this being accomplished through helical gearing. The size of the motor and the construction principle of the clutch combined minimizes the drain on batteries.

Through tests it has been found that batteries last from 25 to 40 percent longer than with other types of driving principles. The driving gears are made of a new material which was developed by a leading manufacturer of plastic compositions.

It is a linen base bakelite, impregnated with graphite which when made into a gear can be run dry for years without damage. The gear that meshes with the one made of the new composition is steel and tests have shown that after considerable use the steel

The Badgley Cinemotor mounted vertically on an Akeley camera. In this position the friction clutch is most accessible. However, for balance the motor may be changed in order to suit the cinematographer. The clutch adjustment is large enough to be handled in any position. The AC-DC switch is located beside the tachometer on the switch box near the forward and reverse switch.





gear assumed a very high polish almost mirror-like, after which there was no further wearing of either gear.

The material used in the friction clutch is of special composition which withstands wear and tear for years without replacing.

All main motor bearings are anti-friction graphite bronze, supplied with continuous oiling through felt wicks. Very little oiling is necessary, assuring the cinematographer of best performance with the least amount of trouble or care. The motor is supplied with nose pieces for adaptation to any standard make of camera such as DeBrie, Bell and Howell, Akeley and Mitchell.

Simple Adjustments

If a cinematographer carries more than one camera with him and each is of different make the same motor may be used with additional nose pieces that are interchangeable by removing only a few screws. The position of the motor on the camera may be changed to suit the cinematographers' liking by changing a dog located on the nose piece.

Likewise the tachometer may also be turned into position to conform with the position of the motor. This is done by loosening one screw and twisting the tachometer in the motor block. Special nose pieces may be built to order. All nose pieces are made from rolled dural stock affording maximum strength.

The cables consist of one ten-foot main cable and one four-foot operating cable attached to a junction box where two switches are located, one for AC or DC current and the other for forward or reverse.

G. J. Badgley of Washington, D. C., is the manufacturer of the motor. He is a veteran of long experience in the construction of apparatus for the motion picture business. In 1909 he first developed the friction clutch principle that he uses in this motor and used it on a projector. Later in 1917 he applied it to a camera and now he is employing it in its improved status in a wild cinemotor after it has undergone extensive tests. It represents much ex-

The Badgley Cinemotor mounted horizontally on an Akeley camera. The large knurled knob just above the tachometer is for turning the camera and motor by hand. Note the forward and reverse switch is easily accessible.

perience gained throughout the many years of experimentation.

This writer obtained one of the motors that Mr. Badgley first built and took it into Northern Vermont during the latter part of this past winter. There he found it to be very practical under all weather conditions. Its performance was astounding.

Cine Finance of India to Seek American Cooperation

The new motion picture financing company set up in India proposes to send a British representative to the United States to study the American motion picture industry and contact American producers of motion picture equipment, according to a report from the American Consulate at Bombay made public by the Department of Commerce.

The new company, called the Cine Finance and Banking Corporation of India, Limited, also will seek American technical cooperation in connection with its projects, through the visit of its British representative to the United States, the report said.

The new Indian company has an authorized capital of \$3,480,000 and has arranged an ambitious program for financing and servicing the motion picture industry of India.

No direct competition with existing companies is contemplated by the new company. Under present plans it proposes to organize independent companies to handle the industry's problems in connection with production, distribution, publicity, equipment purchases, effecting insurance, and training technicians.

The gross income of the motion picture industry of India was estimated at \$31,320,000 in 1938.

There are in India, according to the report, 996 motion picture theaters, 500

touring cinemas, 75 active film companies producing 200 features annually, and 253 distributors handling Indian and imported pictures.

La Casa Movie Makers

Over a hundred members and guests attended the April meeting of La Casa Movie Makers of Alhambra. The feature of the evening was the awarding of the prizes for the spring uncut film contest.

The winners were as follows: "Yellowstone National Park," in color, by Mr. Ritter, first prize, 16mm.; "Yosemite National Park," in black and white, by Mr. Moore, second prize, 16mm.; "Easter Pictures," in color, by Mr. Gaylord, first prize, 8mm.; "Skiing," by Mr. Winchester, in black and white, second prize, 8mm.

A timely talk with color stills was given by Mr. Korn on "Photographing Wild Flowers." Miss Turnbull showed some interesting shots of England which she made on her recent trip abroad.

In the May meeting Mr. Battles will show his feature film, "Our Glorious West." This three reel film was made on a recent visit to fourteen of our Western national parks and is filmed entirely in Kodachrome.

R. A. BATTLES, Publicity Chairman.

Establishes Color Department

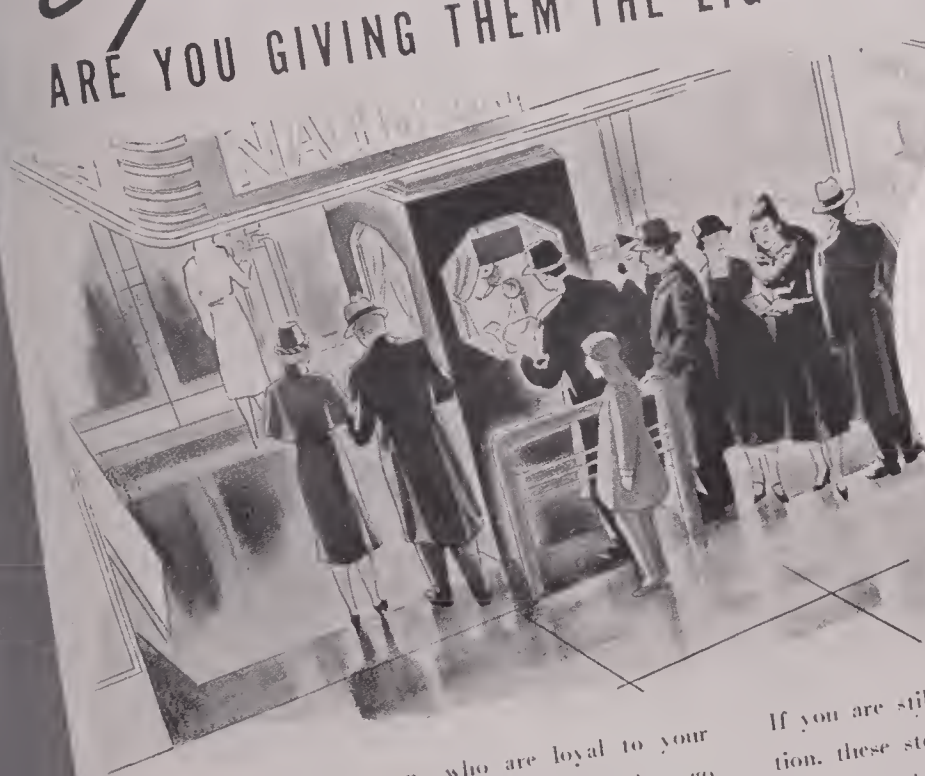
Willoughbys in accordance with its long established policy to incorporate and pioneer any development in photography has now established a complete and separate Color Department in its store.

It will have in its department two color experts who will be glad to answer questions regarding the use of all types of color material in a camera. They can offer movie, still transparencies, and color print service by any of the standard available methods.

Farciot Edouart of Paramount Studios has been appointed to represent the Research Council of the Academy on the "Sectional Committee on Motion Pictures" of the American Standards Association.

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● You have many patrons who are loyal to your theater, who return again and again rather than go elsewhere. This steadfast patronage may be due to convenient location, to the programs you select, or even to personal friendship but, whatever the motive, these patrons deserve recognition.

ARE YOU REPAYING THIS LOYALTY WITH THE QUALITY OF PROJECTION IT MERITS?

If you are still using old style, low intensity projection, these steady customers have a right to object. And some day they will. Simplified High Intensity projection gives so much more — easier vision; more accurate color reproduction; a more satisfactory level of general illumination. Theater patrons know this, for thousands of theaters have already installed it.

The cost is surprisingly low.

Ask your dealer's salesman for the booklet, "YES, BUT WHAT WILL IT COST?"

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'DOCUMENTARY FILM' HAS GENUINE INTEREST

Documentary Film. By Paul Rotha. New York: W. W. Norton & Company, Inc., 70 Fifth Avenue, publishers. Printed in Great Britain. Pp. 320, 91 Illustrations. \$3.75.

TO the constantly growing throng interested in the documentary here is a book for the library table. It is written by an Englishman, one of the founders of the active British group of documentalists, and it was printed in Great Britain. Yet "Documentary Film" in seeking "the first serious deviation from the box office formula" cites an American production as the foundation of that division of the motion picture that seemingly so far has just scratched the surface of its coming power.

It was Pathe which in 1920 created such a furor in the theatrical world by distributing "Nanook of the North," a non-theatrical entertainment of the most perfect example. It was the story of an Esquimo family fighting for life in the bleak North, battling for food and shelter. Robert Flaherty's new-fangled picture struck the ground from under the feet of many successful motion picture men in their insistence that if you gave the public any screen show without a love story in it it would be exhibited to empty seats.

It was the recent American nation wide success of Pare Lorentz's government-made "The Plow that Broke the Plains" and "The River" that is referred to in the opening of the publisher's announcement on the jacket of the book. It declares these pictures brought with them a sudden awareness in the American public of an entirely new art form, quite distinct from the entertainment of "story" film, and based on a new conception of the role of movies in modern life.

Wide Interest Here

The author in his foreword writes that the success of these films, together with the regular issues of "The March of Time," has now created a wide interest in the documentary film in the United States.

Paul Rotha speaks with authority on the documentary film. Not only is he one of the founders of the group behind it but he is one of the foremost makers.

There is a meaty preface by John Grierson, of wide experience in the making of documentaries. "In the documentary uses of the radio and the film," he writes, "we saw new ways of educating public opinion in a democracy. They were dramatic and popular media. They had within them the magical powers of comprehension we sought.

"They were capable of establishing a continuing living contact between the individual and the vast drama of giant forces in which he too inconsequently wandered. . . . It is possible that we have been beaten by events, and that the giant forces, for lack of comprehension, have got out of hand. Today the stage is given over to a drama of religious manias—of fascism and communism and saving the world for this and that—and there is little respite for public education as such. . . .

"The documentary film must pursue, in the deepest sense, the way of education, and long-distance education at that, or it loses its special claim to consideration. I should hate to see an instrument which we have spent a good deal of our time helping to forge used final-

Air Corps Sends Officer to Coast for Lab. Experience

Chester L. Tobias, superintendent of the laboratory of the motion picture division of the air corps of the United States Army, Wright Field, Dayton, Ohio, arrived in Hollywood the last week in May to commence a sixty-day course of training in motion picture laboratory procedure under the auspices of the Research Council of the Academy of Motion Picture Arts and Sciences.

This short course of training in laboratory work was undertaken by the council at the request of Major General H. H. Arnold, chief of the air corps, and is an extension of the War Department-Research Council cooperative officer training program under which selected Signal Corps officers are sent to Hollywood for training in motion picture production.

Captain Dwight L. Mulkey of the Signal Corps is also in Hollywood at this time, studying all phases of motion picture production.

ly to destroy the same things of common observation. But that is the danger."

The author in his foreword says his aim is to convey something of the social and economic basis upon which a certain method of film making—"that which we have called 'documentary'—is now being built to fulfill certain purposes at this moment of political apprehension and social disintegration."

He disavows any thought to decry or limit the functions of the cinema as entertainment. But he insists the story-film is only one kind of film. And he submits "that the technical and cultural achievements of the cinema of the future are more likely to come from the field of documentary and journalistic film than from the studios of entertainment."

Industry Supporting

Mr. Rotha emphasizes the fact, which he declares to be significant, that it is primarily the industrialist and the government official and NOT the educationist who today are making possible the development of the cultural film by providing the all-important means of production. He adds:

"Ostensibly serving the needs of propaganda or, if you prefer it, furthering the aim of public relations, documentary is at the same time fulfilling a definite instructional purpose. It is being enabled to do so by the financial resources of industry and commerce, an aspect of education and propaganda that is worth considerable contemplation."

Illustrating the expansion of the documentary film in Britain, the author cites the growth of the original E. M. B. unit, from one small cutting room in a back room to six production units, with an advisory body and a documentary film workers' association, comprising over fifty members.

Attention is called to the fact that at a time when there are without counting actors more than 8000 film workers unemployed there is a big schedule of documentary films for the present year.

In New York City there is now an American Film Centre working in relation to the parallel body in London. Also on the western side of the Atlantic several film units seriously are tackling the problem of maintaining a continuity of documentary production.

In the introduction to "Cinema" chapters are devoted to Social Aspects, Economic Basis and Commercial Development, Propaganda, Film as an Art, and Documentary. In the evolution of Documentary four traditions are cited, the Naturalist (Romantic), Realist, News-Reel and Propagandist. The latter section is divided between the Soviet, British and German and Italian.

Chapters are given to the Documentary in the Making, i. e., the functions of the producer and the director. Also much space is devoted to the visual, to sound and to treatment. There is an extensive appendix of documentary directors and their principal films.

In Foreign Countries Few Simple Tools Are Adequate

By JULIEN BRYAN

Famous in Statecraft, Oratory and Photography



Julien Bryan

SOMETIMES I am asked to tell how I do my candid-camera work under difficult conditions in foreign countries—to “reveal” what tricks or special equipment I use.

As a matter of fact, I have no tricks or unusual gadgets. Indeed, I carry fewer accessories than many amateurs, perhaps fewer than any other professional movie-maker. I find a few simple tools adequate.

Too many would put needless technical preoccupations between me and the simple human stories I wish to tell. To my mind, the prime requirement for taking interesting pictures is a purpose. Arty pictures are too often a mere consolation for aimlessness.

The amateur should remember that he does not see the professional's average work, but only his best. In covering seven large countries of Europe and Asia I have taken nearly half a million feet of motion pictures and more than 30,000 Leica negatives.

Theme Is People

These are only the crude raw materials from which, after weeks of pruning and editing, I have left the few thousand feet of film I show with my lectures. Not many amateurs are ruth-

less enough in leaving out all but the best of their pictures.

Since my theme is people, before I visit an obscure mountain tribe or a great modern nation I study the people's historical background and customs. Above all, I try to learn what they consider good manners and then am careful to observe their code. For good manners, no matter how unlike our own, mean unobtrusiveness, and this is an important secret of successful candid-camera pictures. This is true whether the pictures are of statesmen, peasants, or children.

On my longest expeditions I carry three Eyemo motion picture cameras, each with 100-foot magazines, made by the Bell & Howell Company of Chicago. Two of these cameras are always ready for instant use; the third is safely stowed away in reserve.

I take two tripods, one Bell & Howell Special and one lightweight model suitable either for motion pictures or for time exposures with the Leica. I carry only four lenses, all Taylor-Hobson-Cooke: an f:2.5 47mm., an f:3.5 35 mm., an f:4.5 150mm., and the new f:1.3, the latter used only for extremely bad light conditions.

I have selected the Eyemo motion pic-

ture camera because it combines minimum size and weight with maximum precision, stands hard knocks, and can quickly be removed from the tripod for candid closeups.

Though most of my footage in recent years has been shot from tripods, that taken on the run with my Eyemos contains many of my most prized documentary scenes. They never could have been obtained if the outfit had been more cumbersome.

Telephoto Seldom Used

The use of the telephoto lens (i. e. photography through a telescope) is an accepted practice among explorers; but I use the 150mm. lens only when obstructions prevent my approaching the subject. Ninety-nine per cent of my closeups were made really close to the persons, often within three or four feet.

With this method, of course, you must be on cordial terms with the people you are photographing. Half-wild tribesmen must sincerely trust the stranger before they permit him to hold up to their faces a weird whirring machine that stares at them with unblinking eyes.

Often I have spent days living with

(Continued on Page 278)

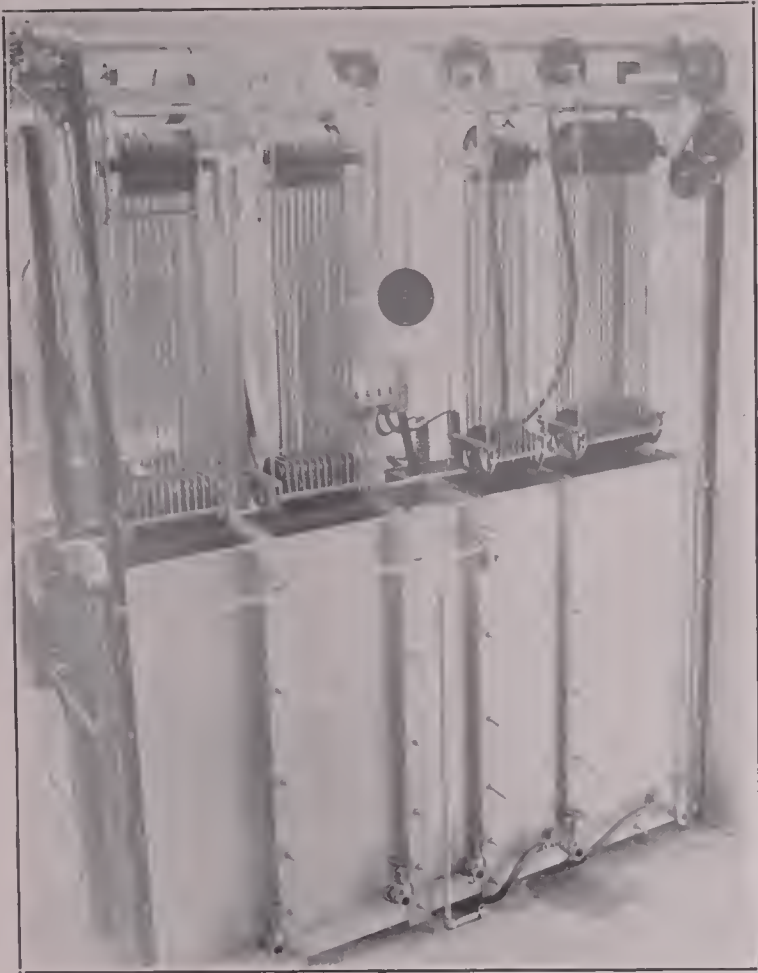


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Wet end of Fonda Machinery Company's 16mm. developer with film raised out of tank



Front view of 16mm. developer showing dry box and blower equipment

FONDA 16mm. DEVELOPER NOW READY FOR MARKET

THIS magazine in February last printed pictures of the 35mm. developer manufactured by the Fonda Machinery Company of 8928 Santa Monica boulevard, Los Angeles. On this page we are printing a picture of the firm's 16mm. developer, a reproduction of the machine as it stands on the floor of the company's factory.

A duplicate of this equipment has for three months been in operation at the plant of Modern Movies, Inc., 6018 Fountain avenue, Hollywood, so successfully that the first break in live film has yet to occur.

In this result the Fonda company sees vindicated the accuracy of the principles of its new drive.

This new driving principle is frictional. The film passes through the tanks and dry box with a soft, even tension which cannot be relaxed or increased. This tension is adjustable by increasing or decreasing the tension of stainless steel springs, and when these springs are once adjusted they do not again have to be changed.

The machines handle scored 16mm. stock as successfully as plain, and it has been shown in practice that at the

same cost two and three-quarters times more work can be processed through this equipment than through rack and tank, to say nothing of the quality of the finished product.

The company has achieved great simplicity of design and reduced maintenance costs materially.

The 16mm. developer is economical in its area requirements, the machine being accommodated in a space 6 by 10 feet.

Eastman Adds Conveniences to Its Kodascopes EE and G

Numerous features have been added to the Kodascopes EE and G, to make the operation of these two 16mm. projectors even more convenient, Eastman Kodak announces.

An improved hinged film gate makes threading and cleaning easier. A convenient lamp adjustment simplifies centering of the lamp in relation to the optical system. A new finger-tip control assists accurate framing.

A carrying handle is provided at the top of the projector, making for convenient transportation. And a new

heavy duty motor in each projector provides ample reserve power, to compensate for voltage drops during peak loads.

The Kodascope EE, Series II, including 2-inch f.2.5 lens; one 400-foot reel, oiling and splicing outfits, but no lamp, retails for \$53. The Kodascope G, Series II, including 2-inch f.1.6 lens, one 400-foot reel, oiling and splicing outfits, but no lamp, retails for \$118.

New York 8mm. Club

The April meeting of the New York Eights was featured by a film made at the Ice Follies at Madison Square Garden by Member Newton on Superpan Film. The effects secured led the members to hope that this fast film would soon be made available for general amateur use.

Other films included Mr. George Baer's "Spring Fever," an exchange from Washington, and Randolph Clardy's "Vida Pacoime," shown through the courtesy of the American Cinematographer.

Central Issues Catalogue

The Central Camera Company of 230 South Wabash avenue, Chicago, has issued a 64 page catalogue of closely packed matter printed on pages 6 by 9 inches.

MAKING THE CANNONS ROAR! *And How!!*

By RICHARD H. LYFORD



Mixing music with dialogue for "Ritual of the Dead"

An Amateur's Experiences with Home Recording

LET'S turn back the clock—a decade and more. In a private home a small group are bubbling over with enthusiasm and curiosity—their host has just asked them to see some of his own home movies! They see shots of his family parading in the back yard—they shout with laughter as they recognize one of their friends making faces at the camera.

But today it is a common thing to ask your friend to run off his latest beach pictures and in turn invite him to see your new National Park film. The idea of taking your own movies—keeping a photographic record of your children, your friends, your vacation trips, has spread in leaps and bounds.

However, today's enthusiastic amateur is becoming discontented with just "shooting things that happen to be there." He wants to be creative. He is in constant search for new locations, situations, ideas to capture with his lens. He is extremely interested in shooting a scenario picture. When his film comes back from development, if he hasn't his own laboratory, he turns to his editing board, striving to make his splices spell continuity. He wants the proper cutting, consistent exposure, artistic titles—a self-explanatory film that would interest any visitor no matter what the subject might be.

But above all, he has a burning desire to have his picture accompanied by sound!

By purchasing or building your own dual turntable sound system and selecting the proper semi-classical and symphonic music to fit the various moods of your films will make them a hundred per cent smoother and more entertaining. The next step, of course, is making your own "talkies."

My first experience with sound and "talkies" was in 1933. The R.H.L.-National Picture Company of Seattle was about to start "The Sea Devil"—its third epic . . . a feature-length film . . . and "all talking"!

I got the idea of filming a World War story after reading Count von Luckner's popular book, "The Sea Devil," but by the time I completed my script the two stories were as much alike as day and night.

Count von Luckner, *The Sea Devil*, was a clever, cheerful German naval officer who sailed the seven seas in a secretly fortified sailing ship disguised as an old Norwegian square-rigger.

He made it a point to sink only the ships that were obviously aiding the enemy. He would first cripple the enemy ship—then order its crew to take to the life boats before he sent her down to Davey Jones. By this method he brought about his amazing record of never killing a person during the World War.

Count von Richter, *The Sea Devil* (the Lyford version), played by yours truly, wasn't content with an old wooden ship—he used a racey submarine and raised hell in every cubic foot of the North Sea!

Real Dripping Meller

With beads of sweat dripping from his brow, his eye glued to his periscope, he would scan the horizon for prey. When approaching an enemy ship he wouldn't give its crew time to find out how cold the water was.

They generally were blown skyward with everything but the keel.

But he finally met his Waterloo—in the burning hold of a ship—with a sabre jammed in his ribs. Gasping for breath and writhing on the floor, he

fought for life. Not a life of insane plundering, of human butchery, but a desire to see once more his almost forgotten companion—his young, attractive wife. As she was baking a cake to celebrate his arrival home he sank with his ship—with her picture crushed to his scarlet breast.

This type of picture called for one thing in particular—sound, and plenty of it! My first step was to purchase an obsolete DeVry 16 mm. disk-sound projector and an old George Givot musical review. I ran the film again and again and, the synchronization being perfect, I was thoroughly satisfied and decided that was the system I would use.

My next intention was to connect my Eastman Model B camera, by means of a flexible shaft, to a turntable, with cutting head, etc., and drive both units with one synchronous motor. Each scene was to be cut on acetate as they were filmed—then timed and redubbed with musical score and added sound effects on a master disk.

I anticipated the finished production to consist of five 400 foot reels filmed at 16 frames a second and five 16 inch acetates recorded at 33 1/3 r.p.m. But the unexpected cost of my disk-sound projector, plus what it would cost for more necessary equipment, brought about one conclusion.

I could either have sound with no picture—or the picture minus the sound. I chose the latter, deciding to shoot the picture silent—then dub the dialogue in later when I could afford the proper equipment.

Box Office Boomed

Two years later, "The Sea Devil," three-fourths complete, was accumulating dust on a shelf. My sound system

was still—"just a dream." We then filmed several other short photoplays, one a semi-feature, and I had to be satisfied with written dialogue and for sound just a musical score played on a dual turntable setup.

Since 1924 my little basement theatre had built up quite a reputation in the neighborhood. Our shows had climbed up from one performance only, to an average four-week run, three nights a week, in order to handle the spectators.

I decided several times to cut up "The Sea Devil," add titles and run it as a "silent." But since 1933 our growing number of customers had been reading signs hung in the "lobby"—"Coming Soon. The First All Talking R.H.L.-National Production. A Thrilling Epic of Submarine Warfare on the High Seas! 'The Sea Devil.' Battle Scenes Galore! Don't Miss It!"

In the latter part of 1936 we finished shooting the final scene for our war epic. It was at last complete, but "silent."

Two weeks later the theatre was sold out for the opening premier of the biggest event in its funny little history. I plastered colorful posters all over the walls. "At Last—It's Here!! Tonight! Four Years in the Making. 'The Sea Devil.' Feature Length—A Talking Picture!!" The audience came early. The theatre was packed with sixty-seven curious people. "I bet the sound is scratchy." "I wonder how Barbara's voice records" (referring to Miss Berger, the leading woman.) "I'll bet the voices don't keep up with the characters. Ha, ha."

What a Noise!

At 8:15, after opening the program with a Seattle Shrine Convention picture which I had filmed in color the summer before, the footlights dimmed, the audience quieted down. As the curtain slowly parted, a dark underwater scene of a fleet of U-boats, like ghosts, slipped past the screen (minia-

ture). A sudden burst from Wagner's "Ride of the Valkyries" boomed from the speaker as the title "zoomed" into view—"The Sea Devil."

For an hour and five minutes the audience along with the picture heard the hum of Diesel motors, the "wooish" of torpedoes, the shouting of commands, the driving of airplanes, the screech of struts and wires, the ra-tat-tat of machine guns, the crack of shrapnel, the rumble of depth bombs, the whistling of wind, the roar of cannons!

When Von Richter and his wife appeared together the voices were softly accompanied by the beautiful strains of Sibelius's "Finlandia." When Von Richter coughed and choked to death toward the end of the film the pounding of Liszt's "Les Preludes" filled the air. Everything was perfectly in sync. The only complaints were that there was too much sound!

After the show several friends asked me what make of sound projector I used. Pondering a moment, I replied that it was made special—custom built.

Held Over, Anyway

Personally "The Sea Devil" was a bit ahead of its time. It was too big an undertaking for what little experience we had gained. The continuity suffered badly in spots and many of the scenes were extremely amateurish. However, a prophesy had been fulfilled. The picture was held over for five weeks.

But few people ever knew the facts of what went on behind the steel garage door which was marked, "Projection Booth. Keep Out!" About the third week a very good friend of mine who had seen the film from the theatre side several times, finally talked his way into the sweat box to watch how the sound was operated.

By the time the show ended he was a nervous wreck from trying not to burst into hysterics. It must have been a funny spectacle to an outsider.

Fastened in front of the projection lens was a piece of plate glass which was tilted at an angle, reflecting the image backward on to a special "dubbing screen" in the booth as well as allowing the film also to be projected perfectly.

Running along one end of the booth (which was the family garage) was a row of tables. At one end was the sound system—amplifiers, mixing panel, three turntables and pick-ups.

On down the "line" were piled records, hammers, glass, pipes, electric fans, sheets of aluminum, sticks, boxes, bottles, barrels, oil drums, light switches, cable, extension plugs, wire, glasses of water, celophane, gadgets and apparatus.

A crystal microphone stood on a stand in front of the tables. The whole set-up looked like a crackpot's paradise.

Here's Real Lowdown

During the show the turntables were going all the time, playing numbers I had selected specially to fit the various sequences. When the time came for a character to speak he stepped up to the mike, watched the screen, and dubbed in the lines. The airplane noises I made with my throat—the machine guns with my tongue—the wind and waves by whistling through my teeth.

For an hour and five minutes we pounded hammers on pipes, banged sheets of aluminum, kicked oil drums, broke glass, clacked telegraph keys, turned on fans, electric motors, creaked orange boxes, wrinkled celophane. The whole thing had to be rehearsed again and again. It was like making a broadcast or giving a stage play, only worse! If one member of the cast got the hiccoughs—well, need more be said?

However, so far as the audience was concerned, they had witnessed the first feature length 16 mm. talking picture ever to be made on an amateur basis.

Shortly afterward my "dream" came true. "Ritual of the Dead," a psychological crime film, was successfully recorded on acetate discs. It was really our second talking picture, but technically our first.

This film encouraged me to make two others, "In Search of Adventure" and our second feature length picture, "As The Earth Turns," which both had musical scores and sound effects, but no spoken dialogue.

But "Ritual of the Dead" is by no means one of the few amateur sound films. Amateurs the country over are experimenting with their own recordings; Dr. Robert Loscher's "Red Cloud Rides Again," a past A.S.C. contest winner; Herb Chrisler's "The Bloomin' Mountain," and Randolph Clardy's new production, employs the use of acetates.

Yesterdays obsolete Vitaphone disk system has been born anew in today's drive for an economical method of home recording by the amateur enthusiast.



The weird strains of "Bluebird" built up this tomb scene from "Ritual of the Dead"

Filtering Arcs for Matching Quality in Monochrome

By CHARLES B. LANG, Jr.
A.S.C.



Charles B. Lang, Jr., A.S.C.

THE idea of using arcs, either alone or in combination with incandescent lamps, for lighting black-and-white pictures is nothing new. A dozen or more years ago, when panchromatic film was being introduced, the industry worked on a 100 per cent arc basis; the "inkies" were developed largely as a result of the introduction of panchromatic film, and came into general use because for most purposes the warmer light of the Mazda globe gave better results with panchromatic materials.

Ever since then, cinematographers have to some greater or less extent been making use of arc equipment for special lighting effects in monochrome films.

This is natural, for there are some types of lighting for which the arc is the only really satisfactory tool. Where, as in most cases, we want the light to have a soft and not overly directional quality, the incandescent is by far the best, especially since its color coordinates well with the color-sensitivity of modern panchromatic emulsions, and modern make-up has been planned with this lighting in mind.

When Arc Is Preferable

But for more strongly directional effects, as when we want strongly defined shadows or very positive highlights, to simulate direct sunlight, the arc is preferable. The light source of the inkie is relatively large, often several inches square.

The light source of a high-intensity arc spotlight, on the other hand, is small.

It is confined largely to the incandescent grater of the carbon, and is as close an approach to the theoretically ideal "point-source" of light as we can get.

So for at least a dozen years cinematographers have mixed arcs and inkies according to the effects desired.

Unfortunately the matter is not as simple as it might sound. In addition to the differences in directional qualities between arcs and inkies, we have also differences in color. The Mazda is a fundamentally yellowish-white light. The arc is inherently bluish.

Thus with film and make-up coordinated to the spectral distribution of Mazda lighting, the beam of an arc acts essentially like a blue filter upon everything upon which it falls, taking us back from panchromatic to orthochromatic rendition.

Faces, especially, are affected: skin-textures take on an unnatural, muddy gray tone, while lips go too dark, a condition which can hardly be tolerated where scenes made under different light sources must be intercut.

Old Type Arcs Too Blue

During the past few years a great deal of development has taken place in arc lighting units. Much of this has been due to the demands of the Technicolor process which, as is well known, calls for lighting closely matched in color to normal daylight.

The old-type arcs were much too blue for this purpose. Many of them lacked also steadiness and uniform light dis-

tribution within the beam. Therefore improved arcs were developed for Technicolor use, much better both mechanically and optically, and in addition engineered to give light more nearly matched to the daylight standard—in other words, to give light that was less blue.

None the less, for a perfect match with daylight, a blue-absorbing gelatin filter is needed for the high-intensity arc spotlights.

At the same time, special auxiliary lens-systems, fitted with adjustable iris diaphragms, have been developed to aid in getting sharply defined spot effects with these lamps.

When I was assigned to photograph Paramount's "Zaza" it was evident that I would have to use some of these units to simulate theatrical spotlighting in the several music-hall sequences. Yet I was by no means satisfied with the rendition an arc key-light would give me in close shots of my star.

Obviously, it would be necessary to filter the arcs to conform with the existing standards of film-sensitivity and make-up, already keyed to the Mazda standard. But how?

Trial and Error

Ordinary straw-colored filters were tested and proved inadequate. They did not correct enough. Yellow and amber filters gave an unduly muddy effect and lightened skin-textures too much.

Finally it occurred to me to inquire what Technicolor used for the purpose. It proved to be a special gelatin termed

the "Y-1" filter. This showed definite promise; but a single "Y-1" did not eliminate quite enough of the bluish emanation. Perhaps several would.

Retaining Sharpness

Further tests showed that this was the case. Using several of these gelatins over each arc employed, I found I could match the color of the light almost perfectly to that of the Mazdas lighting the rest of the scene, while at the same time retaining the "sharp" quality of the arc beam.

Actual production experience indicated that the best results come as a rule from using from two to four "Y-1's" on each arc.

Perhaps the best individual closeup of Claudette Colbert in "Zaza" was lit with this combination of Mazdas for general lighting, and a modern, high-intensity arc, filtered with three "Y-1" gelatins, for the key light. It was the closing shot of the picture. It was a theatrical spotlight effect, and conditions made necessary the use of three cameras with lenses giving angles that ranged from a long shot to an extreme big-head close-up.

With this combination I kept the desirable optical quality of the arc beam and at the same time obtained a pleasingly normal rendition of face and lip textures.

Since then I have found the combination of modern high-intensity arc spotlights and "Y-1" gelatins increasingly useful. In photographing "Midnight" I

employed this type of lighting quite extensively on exteriors, for both day and night effects.

They are excellent for creating natural-looking shadow effects when you are working in heavy shade, as for example under trees. They can be matched so well with sunlight that they virtually bring the sunlight in under the trees.

In this picture there were quite a few sequences—normal daylight effects as well as night shots—to be photographed outdoors on the "Paris street" of the back lot. They were scheduled during a period when the sun was, to say the least, uncertain; it might appear for twenty minutes and then hide behind a cloud for five hours.

Sun by Proxy

Rather than subject the company to these expensive delays waiting for natural light, I decided to film the sequences entirely by artificial light. Canvas covers were rigged above the set, and arcs,

Officers of the National Photographic Dealers' Association are shown as they visited the Ford Exposition at the New York World's Fair while attending the association's sixth annual convention in New York.

Reading from left to right are Percy Y. Howe, treasurer; Laurin P. Marlowe, vice president; Charles Bass, president; Henry W. Lawrence, secretary, and H. O. Bodine, executive secretary. Mr. Bodine and Mr. Howe are New Yorkers, Mr. Bass is from Chicago, Mr. Lawrence from Wichita, and Mr. Marlowe from Dallas.

filtered as necessary with "Y-1's," were set to replace the sun.

This enabled me to keep on shooting regardless of the natural light conditions, and in addition kept my source lighting constant for as long a period as I needed. By this method we made several apparently sunlit sequences when it was actually raining outside our covered set!

The degree of filtering on the arcs could be varied to give any effect desired, from the colder beams useful in night effects to the warm beams for normal effects. And, unlike natural sunlight, one could be confident that the color of the light would be constant all day.

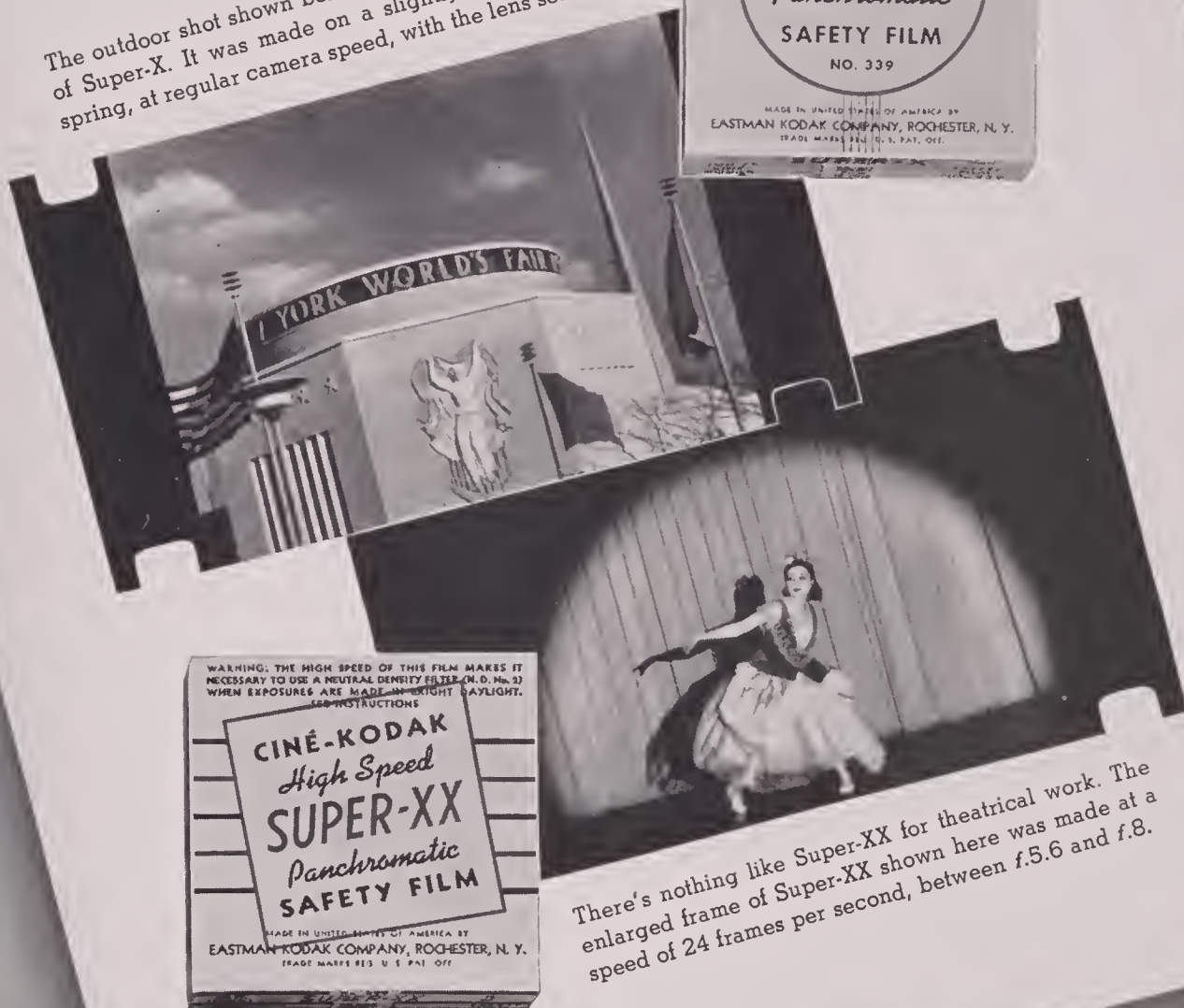
In my present picture, the melodramatic "Cat and the Canary," filtered arcs are again useful, in both interior and exterior scenes, for producing the dramatic lighting effects suited to the mood of the action without sacrificing facial rendition.

As I stated at the start, there is nothing particularly new about mixing arc and incandescent light in monochrome cinematography. But I am informed that little if any use has been made of the possibilities of filtering arcs to correct their spectrum.

I have personally found it to increase the scope of monochrome arc lighting considerably, and I believe others may as well. With this in mind I have tried to point out some of the advantages of the idea, hoping that it may be helpful to others as it has been to me.



The outdoor shot shown below is enlarged from a frame of Super-X. It was made on a slightly overcast day in spring, at regular camera speed, with the lens set at *f*.16.



There's nothing like Super-XX for theatrical work. The enlarged frame of Super-XX shown here was made at a speed of 24 frames per second, between *f*.5.6 and *f*.8.

MASTERY... In these two truly great 16 mm. films—Ciné-Kodak Super-X and Ciné-Kodak Super-XX—the modern movie maker has mastery of every movie opportunity.

There's a new richness in black-and-white quality in these films, a new sparkle and clarity.

Super-X, intended primarily for outdoor work, has unprecedented brilliance, fineness of grain, and beauty of tone quality. It has speed, too, fully equal to that of the famous "SS" Pan.

But if it's speed you want, Super-XX is your film. Super-XX is designed definitely for work by artificial light, and gets along with amazingly little of it. Outdoors, in full sunlight, over-exposure is certain, at even the smallest home movie camera lens apertures, unless a neutral density filter is fitted to the lens.

Put a supply of each of these films in your movie kit. Rest assured, then, that you're in command of every filming opportunity that comes along.

Ciné-Kodak Super-X and Ciné-Kodak Super-XX are both available in all standard 16 mm. lengths—200-ft. rolls (from Rochester only), 100-ft. rolls, 50-ft. magazines, and 50-ft. rolls.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

WHEN SHOPPING FOR A CAMERA... ♦ ♦ ♦

By JAMES A. SHERLOCK

THE purpose of this article is to help the intending buyer select the camera most suitable to his needs. Following are details of various silent cine cameras, ranging from the humble but efficient 8mm. fixed focus single lens camera to the 16mm. camera which is capable of photographing any subject equally as well as most standard silent cameras.

For the person who has not used a camera of any kind, a new or second hand movie camera of good make with one lens (either fast or slow) of a high grade quality is recommended. For the movie addict the market is limited only by the size of both his pocket and enthusiasm.

Cine cameras by well-known makers do not get out of date quickly, and used cameras can be recommended if purchased from a reputable dealer. If a second-hand camera has been bought without an instruction book, a letter to the makers will be sufficient to have one sent you.

There's No "Best"

Many times the question has arisen "Which is the best camera?" The answer to this query is easy. There is no "best camera," but there might be a camera that would best suit the individual buyer, and a study of the chart attached to this article might help.

"A 16mm. or 8mm.?" camera is a question harder to answer. The 8mm. camera has been developed to such an extent that almost every gadget that is to be found on the larger camera is incorporated.

When 8 mm. film is correctly exposed and a good high-powered projector used, the pictures may be enlarged to 6 feet by 4 feet 6 inches, a much larger image than is required for the average home, but one that can be shown to

about 200 people. Pictures larger than this are not recommended, but smaller pictures are almost equal to 16 mm. in quality and the camera is less conspicuous to use and lighter to carry than its big brother.

Further limitations of the 8mm. system is that sound cannot be added to the film. It is harder than 16mm., to edit, also owing to the tiny viewfinder picture composition is difficult and distant views shot with Kodachrome are to be avoided, if a large picture is to be projected. However, closeups and medium closeups with this film are excellent.

Clardy Did It With 8mm.

R. B. Clardy won the photographic award in the 1938 "American Cinematographer" Contest with an 8mm. Kodachrome film, and William Stull, A.S.C., wrote of this cinesmith's film as follows — "Enlarged frames from any of its scenes would be worthy of hanging in any of the world's great still camera salons."

Congratulations, Mr. Clardy, this and the two grand prizes you have won in earlier contests prove to the world that this gauge of film is a serious rival to 16mm., and if handled by an artist is capable of producing pictures equal to the best.

There are 40 frames to the foot of 16mm. film and 80 frames of 8mm., which means that half the length of the smaller film projected at the same speed as 16mm., will take as long to show. Consequently, 50 feet of 8mm. film is equal in projection time to 100 feet of 16mm. and costs less than half.

Threading First Problem

When the camera is decided on and purchased the first difficulty is to master the correct method of threading the film. Each make of camera has a dif-

ferent system of loading, and a close study of your book of instructions will be necessary. With the exception of magazine loading cameras, every cine camera requires the film to be correctly seated in sprocket wheels and firmly held in claws which are placed near the gate of the camera.

A loop in the film is found to be essential on either side of the gate of the camera. The film, in passing from the top spool to the take-up spool, passes the lens, and at this point is stationary while the exposure is being made. Thus some play in the film is needed.

By using a strip of film and following the instruction book, the new movie maker will soon be adept at loading his camera and ready to shoot his first film.

Making Comparisons

The chart was compiled so that a comparison could be made between various cameras. The headings may not be familiar to the beginner, and the following description of the abbreviations should assist—

Width of Film Used—Only cameras for two sub-standard gauges are listed on this chart, viz. 8mm. and 16mm.

Speed of Lens Supplied—The speed of the lens is known by the largest aperture at which it can be actually used to transmit light to the film. The fastest one inch lens mentioned on the chart is F 1.4, the slowest F 3.5.

Other Lenses Available—For some cameras additional lenses can be purchased and are interchangeable, others can only be used with the lens supplied. Where the words "Full Range" appear, lenses of most focal lengths are available.

Visual Critical Focus—This means that while your lens is seated in the camera it is possible to look through it and focus for correct distances.

Adjustable Shutter—This is handy for fade-ins, fade-outs, or dissolves. It will be noticed that only two cameras are so equipped.

Shutter Opening—Means the time the shutter is open to expose each frame. This varies from 1/25 of a second to 1/35 of a second when a speed of 16 frames per second is being used.

Magazine Loading—Makes possible a quick change from one film to another in daylight. Film is loaded in magazines by the makers ready to place in the camera — hence the title "Magazine Loading." An easy method, but not as efficient as the usual system.

Turret Head—These cameras have two or more lenses mounted in front of the camera on a turret which permits instant change from one lens to another. Thus a long shot and close-up may be taken from one camera position.

Film Speed Per Second—The average speed for a silent film is 16 frames per second. For sound film 24 frames per second. Variations from these

VERSATILITY ADDED BY EASTMAN COMBINATION

ANY camera user who wishes to make his equipment more versatile, by the gradual addition of accessories, will find the Kodak Combination lens attachments an ideal means to this end.

These attachments constitute a series of uniformly threaded units, each fitting the others, and all fitting an adapter ring which slips on or screws into the lens mount of the camera.

Each attachment unit is available separately. The adapter ring is the basic unit, and only one such ring is required to mount any combination of attachments on the lens.

An adapter ring and one filter retaining ring provide an ideal filter mounting. Filters can be interchanged readily, so the need of a metal cell mount for each is eliminated. All of the more than 100 Wratten filters are available cemented in "B" glass circles to fit these attachments.

Since individual cell mounts are unnecessary, the combination attachments effect a material saving when a wide range of filters is used—and this saving can be applied on other useful equipment.

With two filter retaining rings, filters may be used in combination if desired. A pola screen may be used directly on the adapter ring, or in combination with filters. Two pola screens may be employed at will. A Kodak Lens Hood (aluminum) may be used with the adapter ring alone, or with a filter, a combination of filters, and a pola screen.

Adapter rings are available to fit lens mounts from $\frac{3}{4}$ -inch diameter to $2\frac{1}{2}$

inches—a range which will take care of virtually any hand camera. Beginning with a single adapter ring and filter retaining ring, the camera user can build up, step by step, a kit of unlimited versatility.

New Kodak 16mm. Issued

Fast, extremely fine-grained, and possessed of other highly desirable characteristics, a new 16mm. film, Cine-Kodak Super-X Panchromatic, is announced from Rochester, by Eastman Kodak.

Advantages claimed for the new film are as follows:

Speed equal to that of Cine-Kodak SS Pan—double the speed of Cine-Kodak Pan; extremely fine grain; better definition, so that projected pictures appear clearer and sharper, especially to persons seated near the screen; improved quality, both in contrast and in the rendering of highlights; capacity to produce superior results, outdoors or indoors, under widely varying light conditions.

Exposure recommendations and filter factors for Cine-Kodak Super-X Pan are the same as those for Cine-Kodak SS Pan. The new film (not to be confused with the former 35mm. Kodak Super-X for miniature still cameras) is available as follows:

Cine-Kodak Super-X Panchromatic Film, 16mm., 100-foot rolls, \$6; 50-foot rolls, \$3.25; 50-foot magazines, \$3.50; 200-foot rolls, \$12; 50-foot packette for Simplex pockette and Filmo 121, \$3.50; 10 meters for Kinamo S-10, \$2.50. Prices include processing and return transportation within the country where the film is processed.

Edwin L. Dyer, A.S.C., Passes

AT his home in Sunland, Calif., Edwin L. Dyer, A.S.C., died the morning of May 23, at the age of 44 years. He leaves a wife, Bessie M. Dyer. Due to illness he had been inactive for the last year and a half.

Mr. Dyer was born in Muscatine, Iowa. When he was twelve years old he took up amateur photography while attending school. Three years later he went to work at the Balboa Studios in Long Beach, Calif., as an assistant in the laboratory at first and quickly being shifted to timing prints and doing developing. He remained here five years, being promoted to assistant cameraman.

From 1915 Mr. Dyer was with the Heart of America Film Corporation of Kansas City as cameraman photographing "The Mysterious Boy," a serial, later being placed in charge of the company's laboratory. From 1919 to 1920 he was news and industrial photographer for the Los Angeles Film Company, and then for four years he was cameraman for the United Film Company of Kansas City, producing industrial films.

Then for several years he was with the Andlauer Film Company of Kansas City making industrials, and with the News Photography and Productions and Motion Picture Service Company. He was expert in multiple exposure and double printing and was keen for keeping abreast of the most up-to-date methods.

Mr. Dyer remained with Motion Picture Advertising until 1932, when he joined the Jam Handy Picture Service Company of Detroit, with which concern he remained until he was compelled to relinquish his duties.

Aalberg Honored

John Aalberg, sound director of RKO-Radio Studio and chairman of the Council's Standards Committee, has been appointed to represent the Research Council of the Academy of Motion Picture Arts and Sciences on the "Sectional Committee on Motion Pictures" of the American Standards Association.

Kodak 35, f.3.5 model, with four units of the Kodak Combination Lens Attachments—adapter ring, filter retaining ring, pola-screen, and Kodak lens hood. Fewer units may be used at will, or others added as necessity dictates.



ERPI STAGES SHOWS ON SOUND WORLD AROUND

A NEW sound system to be handled by distributors of Western Electric theatre equipment abroad was introduced to the motion picture industry in New York, Monday May 15, during a sales exhibition held by Electrical Research Products, Inc., at the Hotel Astor.

Simultaneously exhibitions were given in Havana, Mexico City, Rio de Janeiro, Buenos Aires, Santiago, Lima, Manila, London, Montreal, Singapore, Sydney and Wellington. This is the first time a new sound system has been introduced with simultaneous showing all over the world. Major points of advantage, embodied in the new system, according to the announcement, include more faithful reproduction and greatly increased power.

The new system is adaptable to theatres of any size or type and the design has been calculated to anticipate such future advances in the art of sound recording as are typified by the high volume prints which are scheduled to appear in the near future.

In addition to innumerable refinements made throughout the new system, its designers have perfected many basic features which they believe will profoundly influence the future course of sound system engineering.

For example, by replacing the ordinary machine oil which is commonly used in film stabilizing mechanisms with a unique and recently developed

damping fluid, the chemical composition of which is not disclosed, "flutter" has been reduced to an imperceptible amount, precision measurements showing it to be far below that currently considered commercially acceptable.

Through the application of new circuit principles, the system's power has been stepped up to more than double the requirements of the Academy of Motion Picture Arts and Sciences. Loudspeakers employing the most advanced acoustic ideas yet made commercially available deliver, to fullest box office advantage, the higher sound quality these important features afford.

Technically, the new system begins with a compact film pulling mechanism, or reproducer set, in which every shaft turns in a ball bearing, and in which only one precision-machined sprocket engages the film.

"Single sprocket threading," in addition to its obvious simplicity of operation, makes for better quality in reducing the length of the film path and avoiding the excessive vibration which would be induced by a more complex gear train.

In adapting the principle of single sprocket threading to reproducer set design the engineers called to their service a tried and proved principle of film propulsion which has been standard in cameras and other precision recording equipment for many years.

Another departure from conventional design which materially reduces vibration and which, in consequence, contributes to smoothness and silence of operation, is a unique device for supporting the motor. The arrangement

Gaudio Wins

TONY GAUDIO with his camera on Warner Brothers' "Juarez" took the honors of the Hollywood Reporters poll for the April releases. This means the correspondents who are assigned to Hollywood by newspapers of the world declared their opinion that the photography in "Juarez" topped that of the releases for the month.

enabled the designers to locate the constant speed drive motor in a central position on one side of the reproducer set where, regardless of the projection angle, the motor-armature and its associated drive shaft operate horizontally.

Because the motor fits snugly against the side of the reproducer set and near its natural center of gravity, the entire assembly is stable, proper lubrication without leakage is assured, and no thrust bearings are required.

Mogull's New Catalogue

Mogull Brothers, 68 West Forty-eighth street, brings out a new form of catalogue. April 1 there appeared Mogull's World Fair News, in newspaper guise, 12 by 17 inches in size and 16 pages in capacity. It is intended to take the place of the former issues and to make its appearance every two months or oftener if circumstances justify.

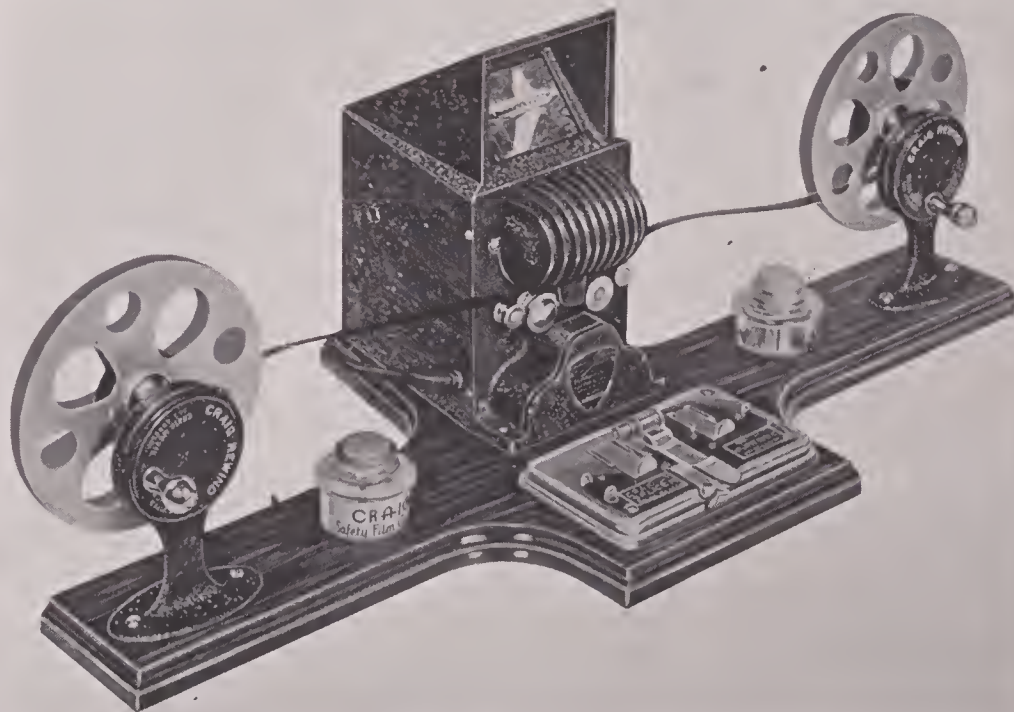
The firm believes in this way will it be able more readily to keep abreast of the numerous price changes and rapid advances made by manufacturers. Prominent in the new issue is an unusually large listing of 8mm. and 16mm. pictures for sale.

8mm. Craig Projecto-Editor Now on Display at Dealers

Acclaimed as one of the finest movie aids yet invented, the 8mm. model of the Craig Projecto-Editor is now being shown at photographic dealers. If you have not as yet seen its 16mm. counterpart, it might be explained that this editing device introduces a new principle in animated projection.

Due to a unique optical arrangement, which dispenses with mechanical shutters, the film may be drawn through fast or slowly while movement on the viewing screen remains smooth and blurless. Since the film merely lies in place between highly polished guides, it can be conveniently removed at will for cutting and splicing.

The complete outfit includes the Craig Junior rewind and splicer combination, mounted on a hardwood base with a bottle of film cement. It lists at \$27.50. Projecto-Editor units may be purchased separately for \$22.50.



Craig Movie Supply Company's 8mm Projecto-Editor, bestowing on the smaller film the same advantages obtained through the 16mm. parallel device.

MAURER TELLS ENGINEERS OF 16mm. SOUND PROGRESS

SIXTEEN millimeter sound-on-film furnished the topic of several unusually interesting papers and demonstrations at the spring convention of the Society of Motion Picture Engineers, held in Hollywood May 17-21. Perhaps the most convincing of these was that given by J. A. Maurer, of the Berndt-Maurer Corporation of New York, well known as pioneer specialists in 16mm. sound.

Maurer had recorded his paper and demonstration on 16mm. sound film, which he played through one of the new Berndt-Maurer 16mm. re-recording heads or "film phonographs." The paper, highly technical in nature, dealt with improved methods of recording sound direct on black-and-white 16mm. film as contrasted to 35mm. recording and subsequent reduction to a 16mm. sound-track.

Both the recorded speech itself and the interspersed musical demonstrations furnished excellent evidence in support of Maurer's contention that by improved recording methods and equipment it is now possible to record directly on 16mm. a frequency range and hence potential sound quality considerably in excess of the reproducing ability of much commercial 16mm. sound equipment.

16mm. Glow-Lamp

That a special miniature glow-lamp for variable-density sound recording in 16mm. home movie cameras is now available was announced in a paper by D. Canady, of the Canady Sound Appliance Corporation of Cleveland.

This lamp, which is only slightly larger than a cigarette, according to Canady, "when used with an amplifier equipped with an automatic volume-control or 'limiter' circuit, is capable of turning out creditable sound-track in the hands of inexperienced persons. The only item necessary for making talking pictures in the home is a 16mm. camera modified to receive the glow-lamp holder."

Canady also described recent innovations in 16mm. projection equipment developed in France. Among these he mentioned that "La Societe des Telephones Ericsson recently introduced its 16mm. projector equipped with the new mercury arc. The projector, originally designed for small audiences, is now quite capable of competing with 35mm. machines.

"The complete projector draws approximately 9 amperes at 110 volts and its screen brilliancy compares very favorably with the output of machines equipped with carbon arcs drawing 45 amperes.

"Some of the advantages claimed for it are increased safety factor as compared to the carbon arc; no smoke or heat as the lamp is water-cooled; and a minimum amount of space is required for the complete outfit. It can

be used without a booth and the equipment is easily transported for portable use.

"The water cooling system consists of a motor-driven pump and radiator. If for any reason the water supply is interrupted, an automatic control instantly breaks the circuit going to the mercury arc. The mercury arc lamp is composed of a thick-walled quartz tube in which are mounted two tungsten electrodes with a drop of mercury between them under a pressure of 100 atmospheres. An outer shell permits the cooling water to flow around the lamp."

Sprocketless Projector

Also described in Canady's paper was a radically new sprocketless French projector which automatically forms and maintains the loops. He stated "The Oehmichen substandard projector is unique in that it employs no toothed sprockets and provides automatic loop regulation.

"A feed roller is used with marginal rubber tires, rotating at a peripheral speed slightly greater than the average speed of the film. When the film is pulled down by the intermittent movement and the loop decreases in radius, pressure of the film against the roller increases rapidly.

"As this roller is moving at a greater speed than the film, the loop is quickly restored. As the radius of the loop increases, pressure against the roller is gradually lessened to the point where there is little or no traction.

"After leaving the intermittent movement, the film passes over another rubber-tired roller which has a peripheral speed slightly less than the film, forming the lower loop. When the radius of this loop decreases for any reason film tension against the roller increases and the loop is quickly restored to normal size.

"In threading, careful adjustment of the loops is unnecessary. Once the machine is under way, it assumes control and maintains loops of proper size regardless of perforations or film shrinkage."

Sound Projection Room

Canady also described a deluxe French sound projection room, equipped with high-fidelity sound equipment for projecting not only the familiar standard and substandard formats, but also two unknown in this country. He says, "The projection-room of the Musee de l'Homme at the Trocadero (Paris) is equipped with an unusual outlay of equipment to accommodate the various formats now in use in France.

"In addition to two 35mm. projectors, the installation includes one 16mm. Kodak projector, one 17.5mm. Pathe projector, and one 9.5mm. Pathe projector, each of which is equipped with a special-built sound-head . . . and carbon-arc lamp . . . This unusual installation

Mrs. Van Trees Passes

The members of the A. S. C. join in extending sincerest sympathy to Past Vice President James Van Trees upon the death of his wife, Mrs. Leonette Van Trees. The end came on May 23 after a brief illness. Interment was at Inglewood Park Thursday, May 25.

was handled by Film et Radio (Paris) under the direction of an American engineer. Other than certain projectors, all apparatus is of American manufacture."

Victor Extends Sound

The new Victor Add-a-Unit Animatophone, just recently announced, makes it possible for educational and business institutions of all kinds to acquire 16mm. motion picture and sound equipment adaptable to all requirements. This new multiple-variation and multiple-use motion projector and sound system is manufactured by the Victor Animatograph Corporation of Davenport, Iowa. All units of the Victor Add-a-Unit Animatophone are interchangeable.

Besides the apparent practicability, this new all-purpose sound system is economical, because units may be added as desired. Starting with the small, compact, basic sound projector, which is complete in itself, an outfit of any size can be secured by simply adding auxiliary units.

The Victor Animatophone basic projector provides silent or sound motion pictures, microphone facilities and phonograph record amplification for an average sized room, without addition of any Add-a-Unit equipment.

Los Angeles Cinema Club

The meeting of the Los Angeles Cinema Club was held on the evening of May 2 in the Vine Street School auditorium.

Member Freebairn discussed a method of sound on film for the amateur 16mm. user. His wife, who is commercially engaged in the making of sound films, then demonstrated her results with the showing of several reels in sound.

The remainder of the meeting was devoted to the showing of a Kodachrome travel film, taken by Member Harry Parker during his recent trip around South America. Mr. Parker commented entertainingly during the projection by the use of an efficient lapel microphone and speaker demonstrated by Fred Champion.

Announced for the next month's meeting is an "uncut film contest," any members' films in one or two reel lengths eligible, providing they were shown "as taken," without splices or any form of editing.

ED. J. PLYE, JR.



Photos by "Dick" Whittington, 3845 Wisconsin street, Los Angeles.

WHITTINGTON LAB ON WHEELS HAS LOT TO DO

SHOWN herewith is one of the "Dick" Whittington Photography's most valued pieces of equipment. So far as the company is aware it is the only contraption of its kind in existence. The officers of the concern will be surprised if it is not duplicated by professional photographers in all principal cities.

The Trav-L-Lab, as it is known, has been in steady use since the first of the present year and has covered all of Southern California. Using the high platform and the ladder, the company has been able to secure hundreds of photos otherwise unobtainable. The company sends in the accompanying pictures in the belief other photographers will be interested in the practicability of this mobile equipment.

Designed primarily for the company's News Pictures Division, it is in constant use by all departments. Here are the features of its construction: It is on a 1939 Dodge one-ton chassis. The total weight of the job is about 5500 pounds. It has a floor area of 65 square feet. It is completely equipped as a photographic laboratory, both for processing negatives and making prints, including enlargements up to 30 by 40 inches.

Six Men on Roof

It has running water. Water is electrically heated and cooled with ice refrigeration. The laboratory is air conditioned by both intake and exhaust fans. The roof is covered with non-skid rubber matting and will easily accommodate six news photographers.

The extension ladder is an integral part of the body and extends upward 35 feet from the ground. It is sufficiently rigid to shoot time exposures except in a strong wind, which makes a faster exposure necessary.

The ladder, when collapsed, fits into a recess in the roof. The Trav-L-Lab has a top speed on the highway of 60 M.P.H., and film processing is carried on while at a standstill or while in motion. On location the laboratory is also used as a dressing room for models. The cost was less than \$3500.

Wholesale Issues Book

The Wholesale Radio Service Company Inc. of New York and other cities has issued a catalogue of 184 pages and cover, timed for the spring and summer of 1939. The publication is 7 by 10 inches and is packed with information. The final twenty eight pages are devoted to cameras and parallel equipment—and is quite a book in itself.

Few Simple Tools Are Adequate

(Continued from Page 263)

a primitive tribe before I felt it prudent to take out my cameras and begin work.

All my black-and-white motion pictures are 35mm., photographed on Eastman Super-X film, which, after much experience, I have found to be most satisfactory for speed, fineness of grain, and uniform quality. It is especially effective in artificial light. My developing, printing, and other laboratory work is done by the H. E. R. Laboratory of New York.

I carry three Leica cameras, one always loaded with Kodachrome color film and fitted with a Summar f:2 50mm. lens, the second with an f:3.5 35mm. lens, the third with the Xenon f:1.5 lens.

Uses but Two Filters

Nearly all my recent still pictures were taken with a Leica on Super-X film. I use but two filters, one a medium yellow (K 2), the other a light red (23 A).

Incorrect exposure means much ruined film and many lost scenes. By using Weston light meters I have reduced such losses to a minimum. These accurate, long-lasting, little photo-electric

"eyes" may earn back their cost in an hour.

Lighting equipment must be used if I am to obtain those intimate scenes inside homes, churches, schools, restaurants, nurseries, mines, factories, hospitals, and court-rooms, without which I would consider my film stories of any country incomplete.

My light kit, which fills only two small suitcases, consists of one dozen No. 4 photo-flood bulbs, several adjustable stands and reflectors, 300 feet of extension cable, a series outlet, and assorted types of electric plugs to meet the needs in different countries.

In hooking up my lights, I have blown out scores of fuses in places ranging from Russian grocery-stores to the Presidential Palace of Turkey; but I carry a stock of replacements for such emergencies—and pity the photographer who doesn't!

Carries One-Minute Flares

Since much of my photography is done in regions lacking electric lights, I also carry a water-proof box of one minute magnesium flares, 100 or more flash bulbs for the Leica, and several home-made sun reflectors.

In taking pictures abroad I have not yet had any of those shabby adventures, considered clever by some, in which the American photographer, enjoying the hospitality of a foreign state, is "boldly snapping forbidden pictures" with the police "hot on his heels"—only to be "outwitted" by him, of course. It may sound thrilling, but both the practice and the pictures are bad.

In eight years of human interest photography, in such thoroughly regulated countries as Japan, Germany, the Soviet Union and Turkey, I have had little of the unpleasantness which travelers frequently report.

A reputation for fairness, a frank and friendly attitude toward the local authorities have enabled me to get exclusive pictures in places where other photographers—sometimes even natives of the country—were forbidden. I must confess, however, that increasing governmental restrictions in many countries have at times made diplomacy a major part of my job.

Underhill Returns

Joseph L. Underhill, for ten years manager of motion picture sound recording activities for RCA Photophone, Ltd., in London, has returned to Camden to take over important new duties under the direction of Max C. Batsel, RCA Photophone chief engineer.

Underhill is a native of Indiana, and studied engineering at Purdue. He joined the RCA organization in 1929 in the sound recording division in New York. He was assigned to London later in the same year. In addition to his responsibilities in England, Mr. Underhill also was in charge of RCA Photophone's technical developments on Continental Europe.

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Thalhammer Issues Line of Photographic Accessories

The Thalhammer Company of Los Angeles, California, announces a line of Kino photographic accessories, manufactured by the makers of Thalhammer tripods. All of these new items are described and illustrated in the Thalhammer 1939 catalog.

The Kino all-angle base for use with the Leica, Retina or Midget Marvel cameras will, according to the manufacturers, achieve any camera angle—vertical, horizontal, or diagonal. The precision construction allows smooth action in changing camera angles. The Kino all-angle base for the Leica or Retina is priced at \$8.50; for the Midget Marvel, \$10.

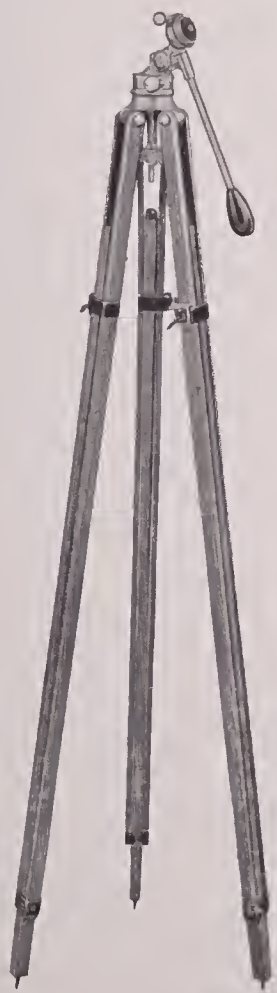
The Kino Universal all-angle hinge is a sturdily constructed hinge that gives the photographer a smooth action for attaining any camera angle wanted. It is designed to fit all miniature cameras. The price is \$6.50.

The Kino combination all-angle base for the Leica is a combination of a base which permits any camera angle and a set of Kino extension rods and an adjustable sunshade and filter holder. Through the use of the extension rods the filter holder may be used with any of the Leica lenses.

There is a two-way adjustment on the sunshade vertically and horizontally to permit perfect fit around the lens. This complete combination is priced at \$30.

The Kino Movie Assembly is available for use with most makes of movie cam-

Following numerous requests for a popular priced tripod and pan head combination, one that might embody some of its exclusive features, the Thalhammer Company of Los Angeles is now manufacturing its new Thrifty 10. Dispensing with chrome plating and some of the more deluxe fittings, yet retaining all its rugged and precision-built qualities, this unit has been designed to sell for \$10. Its tilt-pan head has a natural metal satin finish, and incorporates the exclusive Thalhammer "Instant-On" Plug. The tripod is made of selected, seasoned wood, finished in clear lacquer metal parts polished or coated with black enamel.



eras. The assembly is a combination of the Kino extension rods.

The Thalhammer Company has enlarged its quarters. The new address is 1015 West Second street, Los Angeles. The new 1939 catalog is available.

Agfa Issues New Film

A new film for documentary recording, just announced by Agfa Ansco Corporation, climaxes a period of extensive research in the microcopying field.

This new film, because of its exceptional high resolving power, is ideally suited to bibliographic and documentary recording requiring considerable minifi-

cation. The new Agfa Minipan film provides a proper balance of such factors as speed, contrast, color sensitivity and halation protection.

These factors have been adjusted to give a film of the greatest possible practicability, while holding the resolving power at a maximum. The new film is capable of resolving up to 135 lines per mm. (3400 lines per inch) according to the precision of the recording equipment used.

Agfa Minipan is available in the following standard units: 100 and 200 feet rolls, 35mm., unperforated, darkroom loading. 100 and 200 feet rolls, 35mm., with single perforation, darkroom loading.

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Press Photography

Press Photography with the Miniature Camera. By Duane Featherstonhaugh. Illustrations (25) by the author. American Photographic Publishing Company. 159 pages. 1939. \$2. Boston.

IN ITS introduction this book sets forth that good books on press photography are very rare. It points out that most of those that have been published have sought to explain the working methods of the press photographer in terms of theories. Also they have assumed he could have the use of far more equipment than is obtainable in the average newspaper office.

Press photography, it also points out, is photography reduced to its simplest terms, and it is this simplicity which enables its followers to obtain outstanding results with a minimum of time and effort.

The author declares the average amateur would do well to study the work and methods of the news photographers. He suggests if he does he is sure to find his pictures will be much better and that his time, trouble and expense will also be reduced.

The chapters include the miniature

camera's place in the field, cameras, equipment, exposure, processing, subjects, taking the picture, selling the picture, the staff photographer, specialties and ethics.

Press photography with the miniature camera is an entirely new development. Five years ago, says the author, not one paper in a hundred owned one of the smaller cameras, while today almost every paper with a circulation of twenty thousand or more owns at least one miniature in addition to its battery of larger cameras, Graflex or Speed Graphics.

Old-time press photographers or even comparatively new comers who have been taking pictures only for five or ten years are suspicious of the tiny camera, yet there can be very little doubt it is winning its rightful place in the field, the author declares.

It is conceded the average worker will find it easier to produce good pictures with a large camera than with a miniature, but his problem is one of technique, and the worker who really strives to adapt his technique to the camera he is using will soon find that he is able to overcome any difficulty encountered in processing and printing the smaller negative.

Philadelphia Cinema Club

Playing host to a group of neighboring movie clubs, the Philadelphia Cinema Club's May program included the showing of films presented by and through the guests.

It was our pleasure to entertain a group of over 350 amateur movie enthusiasts, including representatives from the Allentown Movie Club, the Olney Camera Guild, the Raritan (N. J.) Photographic Society, the Bell Movie Club, the Norristown (Pa.) Cinema Club and the Trenton (N. J.) Movie Makers.

Through the courtesy of the Trenton Movie Makers there was presented a 400 foot reel of 16mm. black and white film carrying the title "Iron and Steam." This is the work of Charles Dobbins of the Trenton organization. It depicted scenes along the Pennsylvania Railroad between New York and Philadelphia, as well as interior shots of the station in New York City.

From the Norristown Cinema Club the offering was a 400 foot reel of 16mm. combination Kodachrome and monochrome entitled "Skiing in the White Mountains," the work of Robert Stafford of the Norristown group. The camera work as well as the scenic effects in this film were well done.

Through the courtesy of the Fisher Body Division of General Motors Corporation an opportunity was presented to the combined groups to see its 16mm. sound on film entitled "Let's Go Fishing," in which the narrative work is done by Ted Husing.

The final showing of the meeting was a review of the late Ripley Bugbee's film "Mighty Summits," originally presented at our banquet in February. The requests to see this film again were so great that it was once more put on with Robert W. Crowther handling the musical background via the double turntable method. For breathtaking beauty, real photography, perfect scenic work, the film stands by itself, and is indeed a fitting final tribute to the memory of the man who was so instrumental in the original organization of the Philadelphia Cinema Club.

B. N. LEVENE,

Chairman Publications Committee.

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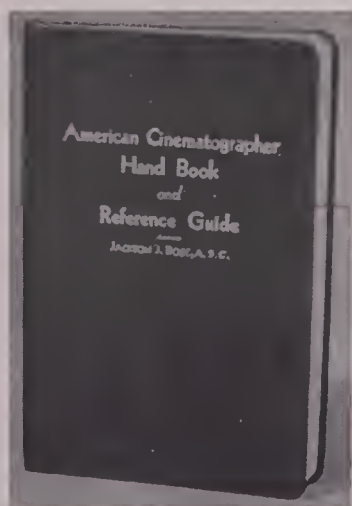
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CURTIS COLOR CAMERA LIGHT AND FAST

THOMAS S. CURTIS Laboratories, Huntington Park, Calif., announce a new two-mirror, three-color camera of near-miniature size designed expressly for personal use. Curtis Color-Scout weighs but five pounds. With lens and one dozen loads of film total weight is but seven pounds and the size is comparable with a 2¼ by 3¼ reflex camera.

Constructed entirely of aluminum alloys, with the optical chassis formed from a single normalized casting of an alloy developed by the Aluminum Company of America expressly for uses wherein complete permanence of size and shape is essential, the little Color-Scout with the care deserved by any fine precision camera will give a lifetime of unimpaired service.

The Color-Scout is the result of seventeen years' continuous research in direct color photography by a pioneer designer and manufacturer of color equipment. The camera embodies every known and many completely new features making for precision of register,

versatility of the camera might be explored under actual service conditions.

Curtis Color-Scout is unique in three-way, two-mirror cameras in that it is beautifully streamlined in design and rests upon its own natural base. The awkward shape inherent in many two-mirror cameras has been overcome resulting in a design that is beautiful, practical and convenient in use.

The speed of the Color-Scout is extraordinary,—a full, honest Weston 12 in daylight resulting in fully timed negatives with exposures of 1/100 second at F.8 in sunlight, with ample reserve for instantaneous exposures in the shade or on dull days at apertures of from F.4.5 to F.6.3.



Curtis Color Camera

color balance, freedom from internal reflections and flare, maintenance of even illumination of the three emulsion apertures, convenience and speed of operation as well as extraordinary compactness and light-weight in an all-metal camera.

The 2¼ by 3¼ negatives enlarge to 11 by 14 with a quality usually associated with five by seven negatives. The field research has been extremely thorough, hundreds of exposures having been made under conditions ranging from motion picture studio set and gallery shots to portraits in the home and in landscapes from the desert below sea-level to the mountains over a mile high.

Every known form of lighting has been employed, from the orthodox to the "trick" variety in order that the

Abstract of Papers From Convention of Engineers at Hollywood

Television Lighting. William C. Eddy, National Broadcasting Co., New York, N. Y.

A Direct-Reading Photoelectric Densitometer. D. R. White, Dupont Film Manufacturing Company, Parlin, N. J.

A photoelectric densitometer has been built which shows the density of the area being measured on a direct-reading scale visible at a reading window. A density range from 0 to 3.0 is covered with a reproducibility of approximately ±0.005. A motor-driven circular neutral wedge is used as the balancing means,

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and the density scale marked on the wedge is read by a stroboscopic flashing light controlled through a special amplifier system.

A Multiduty Motor System. A. L. Holcomb, Electrical Research Products, Inc., Hollywood, Calif.

Various features of motor drive systems now in use by motion picture studios are described and the requirements for an ideal system defined. A recently developed system is described that will operate efficiently on alternating current for stage use or on direct current for location work. Many operating facilities are included which a survey has indicated should become a part of any ideal motor drive system.

Recording and Reproducing Characteristics. K. F. Morgan and D. P. Loye, Electrical Research Products, Inc., Hollywood, Calif.

In the improvement of sound motion pictures, the trend has been to make the response of all parts of the recording and reproducing circuits as nearly "flat" as possible. In some cases, however, this has resulted in unnatural sound, and therefore certain empirical practices

have been adopted in the studios and theaters to make pictures sound best.

A New Mobile Film Recording System. B. Kreuzer, RCA manufacturing Co., Hollywood, Cal., and C. L. Lootens, Republic Productions, Inc., North Hollywood, Cal.

The design requirements for this type unit and how these requirements were met in the selection of truck, body design, equipment layout, etc., are discussed. The recording equipment utilized together with the power equipment and other special features of the unit are described. This type of unit has been in successful operation without revision.

Safekeeping the Picture Industry. K. W. Keene, Underwriters Laboratories, Inc., San Francisco, Calif.

The purpose of the paper is to deal with a very specialized phase of the motion picture industry; that is, its hazards of fire and consequent accident, as due not solely but chiefly to the prevalent use of nitrocellulose film. Consideration will be given to the causes of hazards and an attempt made to show that they are real and what is being done about them.

The paper concludes with a discussion of some of the underlying considerations affecting the Standards of Underwriters' Laboratories as applied to projectors, rewind machines, sound amplifiers, speakers, etc.

RCA Aluminate Developer. J. R. Alburger, RCA Manufacturing Company, Camden, N. J.

Push-Pull Class A-B Sound Track. C. H. Cartwright, Massachusetts Institute of Technology, and W. S. Thompson, RCA Manufacturing Company, Inc., Hollywood, Cal.

After an explanation of the term Class A-B and a brief specification of such a recording system, the general requirements for the operation of any Class A-B system are given and illustrated.

Differences between the operation of push-pull photocells and push-pull vacuum tubes are pointed out and explained, and a discussion of the relative advantages of Class A, Class A-B, and Class B push-pull tracks is given.

The Preservation of History in the Crypt of Civilization. T. K. Peters, Oglethorpe University, Ga.

The problems confronting the scien-

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New Frontiers for the Documentary Films. A. A. Mercey, United States Film Service, National Emergency Council, Washington, D. C.

The motion picture today is the legacy of experimentation of the past. The ancient Egyptians indicated movement in their processional hieroglyphics; the Greeks suggested movement in the magnificent friezes on the Parthenon.

Muybridge's famed experiment with twelve cameras to catch the movements of a horse was antedated by experimentation of centuries before. Kircher with his magic lantern in 1640, Peter Mark Roget, Sir John Hershel, von Stampfer, Sellers, Heyl, the great Faraday, Daguerre, and Niepce—these and others worked and contributed to establish in practicality the law of persistence of vision with regard to moving objects.

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A New Magnetic Recorder and Its Adaptations. S. J. Begun, Brush Development Company, Cleveland, Ohio.

A magnetic recording machine is now commercially available, using an endless steel tape loop as a recording vehicle. Such an endless loop makes it possible to record and reproduce without reversing the direction of rotation of the mechanism. Neither is it necessary to manipulate the recording and pick-up heads.

Lamps and Optical Systems for Sound Reproduction. F. E. Carlson, General Electric Co., Cleveland, Ohio.

Sound reproduction systems are designed on the premise that the sound-track will be illuminated by a scanning-beam of substantially uniform flux density. This paper presents results of extensive studies of the actual beam characteristics for all types of optical systems and lamps employed in the reproduction of sound from film. They were made possible by a unique microphotometer, designed by the author, with

which the scanning beam can be analyzed in minute elements.

The studies cover: Relative levels of scanning beam illumination; effect of source displacement from design position on total flux at the sound-track; microphotometer recordings of distribution of flux density across the beam as affected by optical systems and source forms and by displacements of the source.

Further Improvements in Light Record Reproducers and Theoretical Considerations Entering into Their Design. A. L. Williams, Brush Development Company, Cleveland.

A Reel-and-Tray Developing Machine. R. S. Leonard, Municipal Light and Power System, Seattle, Wash.

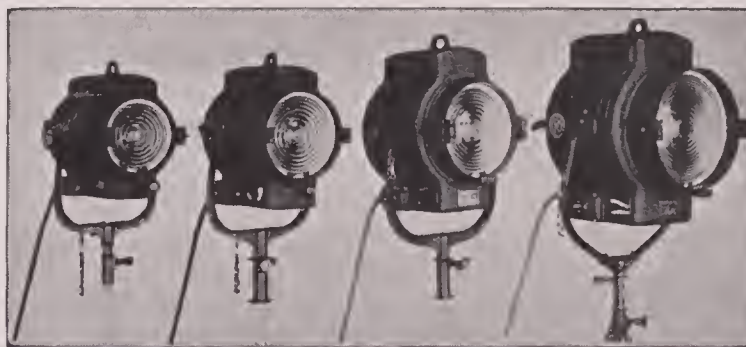
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Scene 2 (Closeup). Paul's sincere and eager smile as he hands his things to Marie.

Scene 3 (Closeup). Marie's smile of welcome as she takes them. Paul, in her opinion, is her mistress' only sincere caller. The others are hypocrites.

Scene 4 (Medium). Marie motions Paul to a seat and sets the flowers and candy on a nearby table and exits for a vase. Paul picks up a small volume from the table and thumbs it idly. Marie returns with a vase of water and starts arranging the flowers in it. Evelyn appears in a doorway, garbed in negligee.

Scene 5 (Closeup). Evelyn setting her mood for Paul. She's tolerant of his attentions, which appeal to her vanity; but she prefers her other followers.

Scene 6 (Medium). Evelyn, pausing only momentarily, enters the room with her hand extended toward Paul, who

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rises to greet her. On her face is a pleasant but supercilious smile. Paul is wide-eyed with worship for her. (Closeups optional).

Scene 7 (Medium). Marie, finished arranging flowers, exits. Evelyn approaches flowers with rapturous appreciation. She loves flowers. She selects a small bud from the bouquet and inserts it in his lapel. Then, pushing him on to a chair, she, in a slightly dutiful manner, opens the candy and proffers it to him. Then, glancing somewhat apprehensively at a nearby clock, she turns on the radio. Evelyn pulls Paul

to his feet and they dance. While they are dancing Marie enters, crosses, and, opening the door, admits Carlos.

Scene 8 (Medium-close). Carlos, the smooth, oily type, is also laden with candy and flowers. Paul and Evelyn cease dancing as Marie takes Carlos' things. Evelyn approaches Carlos, who gallantly kisses her hand and, next, abruptly nods to Paul, but returns his attentions to Evelyn, telling her that she must hurry if they are not going to be late for where they are going.

Scene 9 (Medium). Evelyn stepping back from Carlos, makes her excuses to the two men and exits, leaving Paul pattering with the radio, Carlos strutting to Paul's discomfiture, and Marie arranging the second vase of flowers, which are ever so much more pretentious than Paul's. Finally, Marie exits, leaving Paul reseated and thumbing a volume again, while Carlos stands rather arrogantly admiring the flowers he's just brought. (Fade-out).

Scene 10 (Fade-in) (Medium). Paul and Carlos glaring rather balefully at each other as Evelyn returns dressed for the street, closely followed by Marie. Evelyn goes over to Paul with an imploring attitude. She begs with facial expression and gesture to be excused, that she must leave with Carlos, as it had been previously arranged. Toward Paul she's slightly patronizing. Paul shrugs agreeably and motions not to mind him. He adores her and wants her to be pleased in all things.

Scene 11 (Medium). Evelyn leaving with Carlos as Marie enters. Marie

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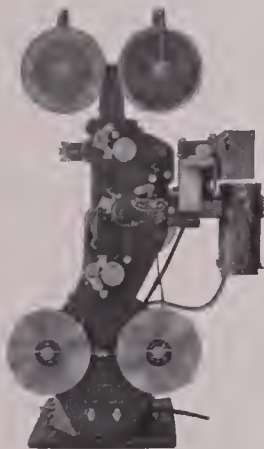
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asks Paul if she can get him a drink or something before he leaves. Paul shakes his head and, picking up his hat, walks over to the mantel where there is an exquisite photo of Evelyn. He stands a moment in silent worship of her picture. Not far from it is a photo of him and also one of Carlos. Marie joins him as he, with a sniff, glances at Carlos' picture. She, too, looks at it wrinkling up her nose in a distasteful rabbit's face. She is in sympathy with Paul's love for Evelyn and the latter's subsequent neglect of him. She tells him to just wait, that one fine day she'll fix that "heel" Carlos for good. Paul only shrugs and pats Marie appreciatively on her shoulder, as he heaves a bit of a sad sigh and exits. Marie busies about setting things to rights. (Fade-out).

Scene 12 (Fade-in) (Medium). Evelyn, returned from her outing with Carlos, entering her apartment living room, calls Marie, who enters and takes her things. Evelyn, tired, drops into a chair. Marie pauses by the mantel and looks contemplatively at the two pictures of Paul and Carlos, and then over at Evelyn, who is sitting relaxed. Picking up the photo of Carlos, Marie approaches Evelyn in an apologetic manner and cautiously opens the conversation. Evelyn is interested. She likes—and trusts—Marie, her maid and companion. (A sub-title, or two, may be necessary here.) Marie tells Evelyn that she knows Carlos' type well, that he's a hypocrite and a "heel"; that, worst of all, he's a skirt-chaser, and as uncertain as the weather, and as unfaithful as an alley cur. This latter remark and attitude arouses Evelyn, who defends Carlos with irritated emphasis. Marie, finally replacing the photo on the mantel, says that some day she'll show up Carlos for the "heel" and skirt-chaser that he is. Then, picking up Paul's picture, Marie adds that there's a regular fellow for you; that he's the one Evelyn should encourage most. Thereupon, Evelyn sniffs rather disdainfully and agrees that Paul's all right but not exciting enough for her ultra-active temperament. (Fade-out).

Scene 13 (Fade-in) (Medium). Evelyn's kitchen the next morning. Marie and Evelyn are preparing a hamper of

lunch for a picnic. There is the usual picnic-basket equipment for four. (Fade-out).

Scene 14 (Fade-in) (Medium). Evelyn's living-room. Marie enters, crosses and admits Carlos, who has a package of something for the picnic. He follows Marie out into the kitchen.

Scene 15 (Medium). Evelyn's kitchen. Marie and Carlos enter. Carlos greets Evelyn and goes through his hand-kissing routine, and then offers to help.

Scene 16 (Medium). Living-room. Marie enters, crosses and admits Paul, who is also carrying something for the picnic. Paul follows Marie into the kitchen.

Scene 17 (Medium). Kitchen. When Marie enters, followed by Paul, there is a fleeting look of consternation on Carlos' face, as though he didn't know—and resents—Paul being invited. On a quick second thought he decides to make the best of it and, overdoing it a little in patronizing, he enthusiastically greets Paul after Paul has paid his respects to Evelyn and thanked her for inviting him. (Fade-out).

Scene 18 (Fade-in) (Medium-Close).

Evelyn's dressing room. Evelyn, aided by Marie, is putting on some final touches. In an off-hand moment, Marie gives Evelyn a sealed envelope and asks her to keep it for her until they return from the picnic. Evelyn's curiosity about it is displaced by Marie's casualness as she shrugs that it's nothing very important. Anyhow they are in a hurry to be off. Evelyn tucks the envelope in a drawer in her dresser. (Fade-out).

Scene 19 (Fade-in) (Medium) (Exterior). Outside Evelyn's apartment house. Parked are three cars: an expensive looking one belonging to Carlos, a cheap one of Paul's and, a large open one belonging to Evelyn. Through the apartment house door comes Evelyn and Marie, followed by Carlos and Paul, the latter carrying the huge picnic hamper, which is stowed in the rear of the open car. Evelyn asks Paul to drive, and Marie to sit in front with him, while she and Carlos occupy the rear seat. As they drive off—(Fade-out).

Scene 20 (Fade-in) (Exterior). The car is stopped at a likely picnic spot, far out on the countryside. (Cut in shots of scenery: landscapes, clouds, etc.). All aid in spreading the picnic set-up under a huge tree. As they begin to eat—(Fade-out).

Scene 21 (Fade-in) (Medium). The lunch setting. They have finished eating. Marie has begun to put the things away. Evelyn, laughing, jumps to her feet and, grasping Paul by the hand, wants to run with him to a creek several yards away. (A chase-shot might be cut in here).

Scene 22 (Medium). At the creek the water is tempting. Impulsively, Evelyn decides to go wading. She rolls up her slacks and pulls off her shoes and sox. Paul does likewise, and hand-in-hand, they wade, laughing and joking. They enjoy it.

Scene 23 (Medium). Back at the picnic setting, Carlos is helping Marie. He somewhat covetously notices, as though for the first time, her trim little

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figure. As he aids her in putting things away, he takes every opportunity to brush against her caressingly; and, when he hands her things, he catches her fingers in his every chance he gets. Every time he does either of these things Marie gives him a sort of a "naughty-naughty" look. Once, when he tries to throw his arms about her (the waders in the creek are out of sight), she wriggles out of his grasp. She continually keeps an alert eye peeled in the direction of the creek. When she sees the waders returning, she picks up the cloth, or blanket, on which the lunch had been spread and goes behind some nearby bushes to shake it out. Carlos follows her, not seeing the waders returning so concentrated is he on Marie. Then, too, the waders are more subdued, not as noisy as they were when they ran to the creek. They're tired and returning quietly.

Scene 24 (Medium-Close). Behind the bushes where Marie is shaking the blanket. Carlos again tries to embrace Marie. She eludes him until the instant Evelyn and Paul come within vision in the background, unseen by Carlos, and she submits. He embraces her, kissing her with great earnestness.

Scene 25 (Medium). Marie, suddenly, now that Evelyn has seen them, decides to repel Carlos. She struggles and wriggles, and finally escapes him, running back toward the car. Evelyn, who has caught up with them, her eyes flashing fire, contemptuously berates Carlos; telling him, in ladylike low-voice but none the less cuttingly, just what she thinks of him and what he can do. She then turns to Marie and gives her a composed but effective verbal lashing, and, in conclusion, discharges her. Paul looks toward Marie with sympathy. He doesn't think she should be blamed for Carlos' vileness.

Scene 26 (Medium). They board the car for the return trip, Evelyn sitting in front with Paul, more friendly toward him than ever, as the other two are compelled to sit in the rear. (Fade-out).

Scene 27 (Medium). Exterior of Evelyn's apartment house as they drive up. Carlos, with a contemptuous look at Marie, another sneer for Paul, makes a brief apology to Evelyn, who, with quiet severity, asks him kindly to forget that he knows her, and, turning her back on him, talks to Paul behind the wheel. Carlos walks rapidly away without a backward look, climbs in his nearby parked car and drives off. Marie is still seated in the back seat, a bit uncertain. Evelyn turns to her and orders her upstairs to pack her things and leave; telling her that when she, Evelyn, comes upstairs, she doesn't want to see any sign of her, or anything belonging to her. Marie exits through apartment house door.

Scene 28 (Medium-close). Evelyn and Paul, still seated in the front seat talking. Paul remonstrates with Evelyn about the dismissal of Marie—saying that she's a bit too harsh, that Carlos

was a cad, etc. But Evelyn contends that Marie appeared to be enjoying the lovemaking as she hadn't started to repel Carlos until she, Evelyn, came into sight back at the picnic. Paul feels that he should stick up for Marie because she's sympathized with him and his troubles. When Marie finally comes down with her bags, Evelyn's and Paul's argument has become quite heated, especially when Evelyn hints that maybe Paul, too, is interested in Marie. Paul becomes insulted and, getting out of the car, tells Marie that if he can drive her anywhere to get in his little car which is nearby. Evelyn is furious.

Scene 29 (Medium). Marie, as she permits Paul to help her into his car with her bags, turns to Evelyn and tells her to read the letter she handed her that morning to keep for her. (Fade-out).

Scene (Fade-in) (Medium-close) (Interior). Evelyn in her dressing room, opening the letter Marie handed her that morning. She opens it and reads:

Scene 31 (Insert). A brief typewritten, or large bold, hand-written note: My dear Eve:

Today at the picnic, I'm going to try to show you what a common skirt-chaser your good friend Carlos is. He'll probably try to make love to me if you are out of sight for even a moment. I'll let him do so just long enough for you to see—to prove that I'm right about him. Your loyal—

MARIE

Scene 32 (Medium-close). Evelyn reading Marie's note, and suddenly realizing

what she's done. (Fade-out).

Scene 33 (Fade-in) (Medium-close). Paul and Marie stopping in his car outside his apartment house. Together they leave the car and enter the building.

Scene 34 (Medium). Interior Paul's apartment. The door opens and Marie enters. Paul, pausing to withdraw his key from the lock, follows her in and closes the door.

Scene 35 (Insert). Paul's phone rings.

Scene 36 (Closeup). Paul answers telephone.

Scene 37 (Closeup). Evelyn talking into phone. She's asking what Paul did with Marie—that it was all a misunderstanding—that she wants her back.

Scene 38 (Medium). Paul talking to Evelyn over phone, beckons to Marie and embraces her with his free arm as he talks. He tells her that she can't have Marie as Marie is going to keep house for him—legally; and that she, Evelyn, had better not call him up any more, as Marie is very jealous. He hangs up the phone, and embraces and kisses Marie.

Scene 40 (Medium). Evelyn, as she hangs up her phone, pauses reflectively, rapidly flips through the pages of a note-book, finds a number and dials it.

Scene 41 (Medium). Andre Saffron, another smooth, oily type of man, picks up his phone and is overjoyed at the sound of Evelyn's voice. He talks animatedly and enthusiastically.

Scene 42 (Medium). Evelyn talking into phone with a silky, saccharine expression on her face as we—(Fade-out).

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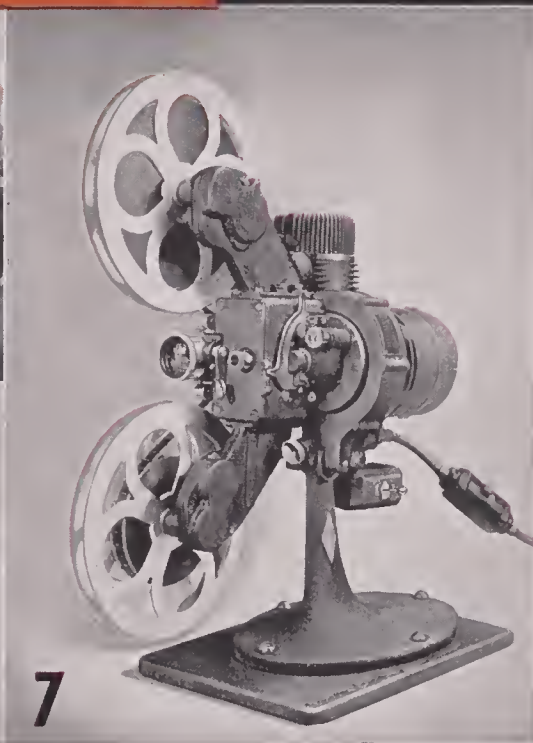
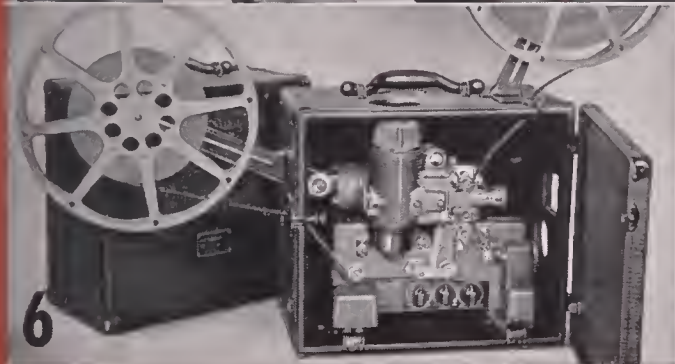
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AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

July
1939
25c

Foreign 35c

Published in Hollywood by
American Society of
Cinematographers

Erpi's Revolutionary
Vocoder

New Weston Meter

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Dividends
SHERLOCK

Building Movies
Around Music
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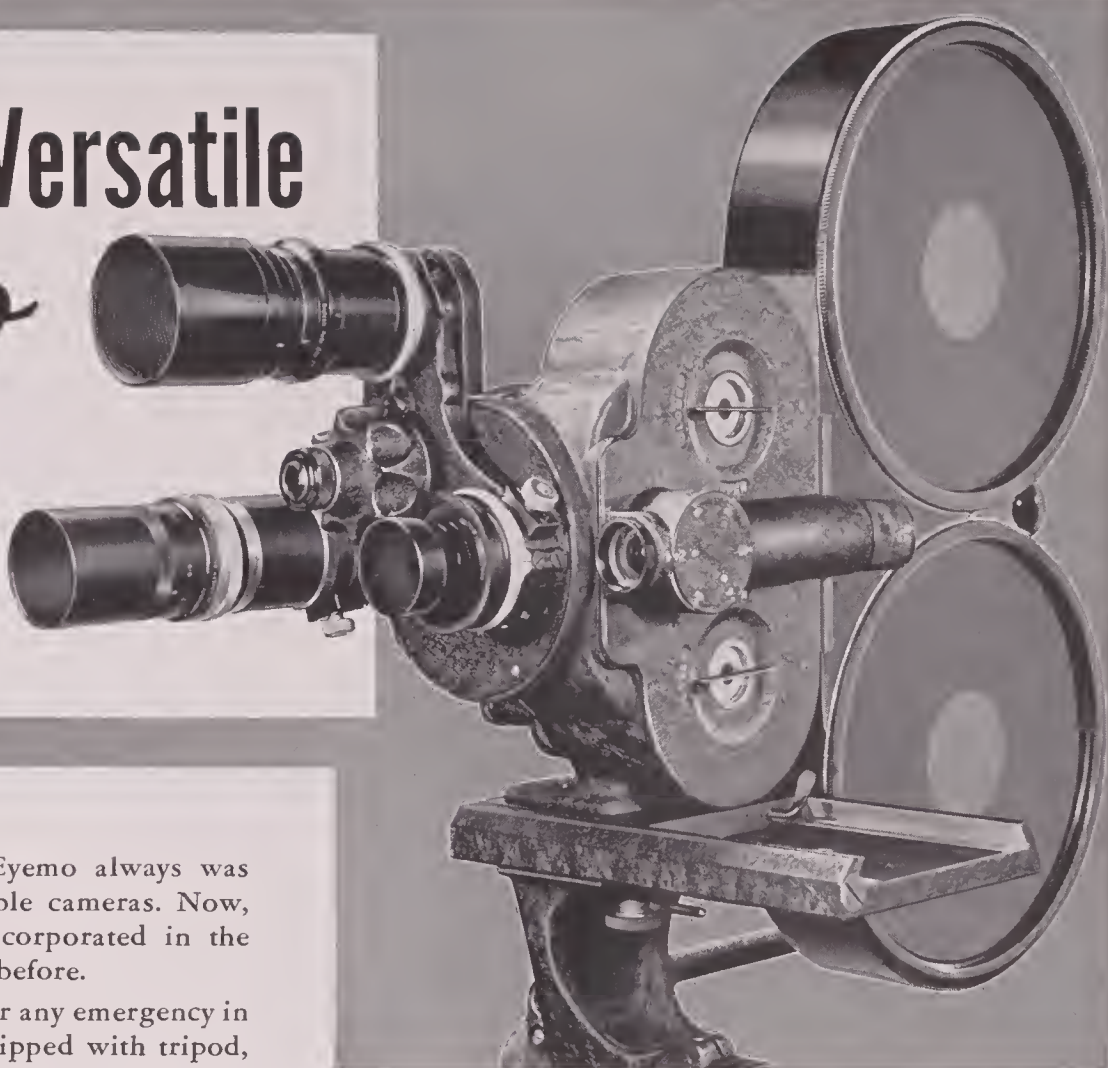
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The Cover

AT THE Paramount Studio Karl Struss, A.S.C., director of photography on "Island of Lost Men," upper right hand corner, supervises a vertical shot. In the left upper corner is J. Carroll Naish, who is featured with Anna May Wong. Directly behind the camera is Director Kurt Neumann. In front of the director and lying under the camera is George Clemens, operative cameraman.



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Just Here and There

By GEORGE BLAISDELL

THE June gathering of the Los Angeles Cinema Club was listed as a special dinner meeting. Also it was marked as a particularly successful one from several really important viewpoints.

Among these were the number and quality of films submitted in this "uncut 100-foot reel contest." The 100-foot reel was the maximum length. Several were submitted of 50-foot length.

Then again the handling of the exhibition was most efficient. This will be another story in fact, and well it may be. As one member loaded the projector another sitting opposite him with his own device for rewinding was doing just that in a most speedy way. Before the loading was completed the rewinding was finished. Then the chairman, when the last of the four judges was through with his notes, gave the word for darkening the room. The film was on the screen in jigtime.

There were three prizes to be distributed at the end of the showing. The committee of four judges soon had its report, in five or surely ten minutes, as to its opinion on the three subjects that stood the highest.

These were reported back to the members, who had been entertained in the meantime by the showing of a non-contesting short. Then the three selected films were again run for the consideration and judgment of the members.

The members voted on but one subject, that which each considered the best. The first prize went to the top and the second and third prizes were awarded the pictures that ranked accordingly.

The plan was the committee's. It worked out without a ripple and seemingly so smoothly there will be no occasion for holding any inquest whenever any two disappointed partisans get their heads together.

Former Chief of Police Davis was a member of the committee. His judgment of picture values is most keen, fortified by a memory for details praiseworthy and otherwise that would do credit to a veteran bridge player.

When the committee uncovered a difference of opinion, two favoring the inclusion of a certain picture in the three winners and two another, the matter quickly was solved by flipping a coin as to which one should be favored. And at the chief's suggestion the identity of the loser was uncovered to the members.

Down at Laguna Beach for the Memorial Day weekend there was witnessed an incident unusual in character but after all quite understandable. A small boy was walking between a man and woman,

plainly his parents, down a lane leading to the ocean. He was holding hands with them, skipping from side to side and feeling exceedingly gay.

The tide was high and the surf was pounding, smashing and roaring over ledges and hardened sand. The sky bore an ominous look.

As the lad came within view of the breakers he suddenly stopped. Over his face spread a look of terror. He grabbed at his mother and screamed. She put her arms around the child and tried to assure him there was no danger, but at the same time she led him away from the surf. She saw the look of concern in the eyes of an interested bystander.

"You know he never before saw the ocean," she explained.

A young man came down on the beach with a surfboard. Jumping around him and barking loudly was a small, black dog. The young man conveyed the board

outside the surf and the dog continued to bark and prance.

In a few moments the board and its rider came tearing to shore. The barking was renewed. The rider picked up the dog and a bit later rider and dog were aboard the plank. The barking suddenly stopped. The pup was frightened but game. At least he was with his master.

A camera was unslung, awaiting the rush of man and dog to shore. It must have been three quarters of an hour before the man took a move in that direction. Finally he came, with the dog, shrinking, timid perhaps but silent, sitting tight. The board came through the breakers and floated into shallow water.

The dog bounded ashore and barked as he ran. Then he jumped into the shallow water and ran toward the board. Plainly he loved the board less but the companionship of his master more.

On the land side of Laguna is a hill, something over a thousand feet in elevation surely and maybe much more, known locally as "Top of the World." Just over the crest is a sudden descent to the floor of a valley, with a winding stream flowing across it. Hills pile up behind gradually, attaining the dignity of mountains. Cattle in seemingly small groups are scattered over hill and valley.

In the scores of square miles within the range of the eye there is but one homestead visible. Sitting by the roadside one is conscious of the silence. Suddenly it is broken by the distant bellowing of cattle, so far distant as to be hardly visible.

Away from the roadside and off in the fields, or desert, a quarter mile away, the silence is transformed to a distinct hum, almost a roar, of bees, literally of millions of them.

If you have occasion to visit this resort town sixty miles south of Los Angeles and are packing a camera you will be repaid by a visit to the "Top of the World." You may identify the location by a grove of trees at the crest. The tenderfoot may get an idea of the vastness of ranch areas in lands far from the madding crowd when he sees with his own eyes a view that may be found within a five minute ride from the crowded highway.

And it will be a gloriously impressive view he will carry with him for days to come.

At Pantages on the last day of May Universal previewed a picture that is due to be heard from in many lands. "The Sun Never Sets" tells a story of England's Empire, as its title establishes.

From the Paramount studio come a bride and bridegroom. The bride is Madeline Lieurance, make-up department secretary; the groom is Malcolm Bullock, still photographer. To the latter's associate, Talmage Morrison, we are indebted for a still which commands a place of honor in the future home of the Bullocks.



The fact it is a story of men rather than of men and women seems in no measurable way to militate against its interest.

Douglas Fairbanks Junior and Basil Rathbone are supported by Lionel Atwill, C. Aubrey Smith and Melville Cooper among others in a stern drama and a great story. To the picture's support the British Empire may be expected to put its stout shoulder, but the theatergoers of every country that stands for pride of race will find in its theme an abundance of thrill and stimulation.

Some pictures undergoing preview are fortunate in colliding with a weak sister in the production that holds down the boards at the theater. Universal bumped into Howard Hawks' Columbia production of "Only Angels Have Wings." Powerful as is that subject it detracted in no way from the one under preview.

It was an unusual pair of pictures, one fortifying and making stronger its companion. In theme one was the antithesis of the other. The Universal production was a tale of first families, of great families. Columbia's was of the everyday run of the mine man and woman, their forbears unheralded and unsung. Yet in each, whether of first family or otherwise, men battled daily problems in the same way.

It was a rare pair to draw.

In the New Academy Review Theater, which is conducting a series of old favorites, Douglas Fairbanks Senior's "Mark of Zorro" was shown early in June. The picture was released in 1920, nineteen years ago. The subject was of genuine interest in several ways aside from that attaching to its drama.

In the first place, pictures that antedate the coming of sound are usually killed for public presentation by reason of the speed at which they are run. Photographed at sixteen to the second, they are shown on projectors adjusted to be run at a speed that has come with sound, i. e., twenty-four a second.

That is why a picture ten years old always meets ridicule on the part of an audience when it is shown in a theater. It is run half as fast again as when originally photographed. The opinion of those in the house, at least a great majority of them, is that it was photographed as they see it on the screen.

Don Gledhill, executive secretary of the Academy, made sure that would not happen. He installed a projector that could be adjusted to the pre-sound basis. So was shown "Mark of Zorro," shown as it was photographed. The print proved to be in excellent condition.

There was a plenty of difference in the way of interpretation, however. The use of titles as a means of conveying the language of the speakers and the absence of sound meant overemphasis on the part of the actors. There was an absence of the normal expressions of today.

Those who witnessed the showing of pictures prior to the coming of sound

will recall the pest who insisted on reading titles aloud, either for the benefit of himself or for others. The showing of titles resurrected one of those forgotten pests on the occasion to which we are referring.

A careful examination of the offender at the conclusion of the running showed him to be a young man of perhaps twenty-five years of age. He had the earmarks of the smart alec, but he had the ways of the same old pest.

He could not, however, dispell the pleasure of witnessing one of the famous examples of the athletic and acrobatic Senior, who in a major way was the first in his specialty even as he was the last.

Universal may have performed a public service when it secured release of Gilbert & Sullivan's "Mikado" in Technicolor. Pictorially color enhances the beauty of the subject. Without saying, good color does just that. But in "Mikado" there also are other factors.

There is the matter of singing, individually and collectively. The chorus is of the D'Oyly Carte opera company, which was an institution when men now old were young and in which forty or whatever the number may be sing like one . . . and how rarely well they sing.

The principals are all trained not only as singers but as singers in Gilbert and Sullivan parts, so skilled in their work that the tongue-twisting lyrics of these famous unsucceeded composers fall from their lips with the ease and smoothness of rolling down a slope. The roles are handled with the surety and poise of second nature.

The music is recorded by the London Symphony Orchestra. The picture is adapted, conducted and produced by Geoffrey Toye. And it is directed by Victor Schertzinger, trained in the ways of Hollywood, in its technique . . . and its traditions.

Seemingly these brief remarks have covered the major factors in the making of a musical. Yet there are two which stand out:

The "adaptation" was a shadow. The

Death of Frank B. Good

FRANK B. GOOD, A.S.C., suffered a fatal heart attack on May 31. His death was a shock to his friends and associates, made all the greater by its suddenness and total unexpectedness. For years he had been secretary of the society, and but a few days prior to his passing his fellow-members of the board had honored him by adding the duties of treasurer to his work.

Frank Good will be remembered as one who aimed to do the thing that was right rather than the thing which seemed personally expedient.

He was 54 years old. He leaves a wife, Mary Dolores.

script was followed. Director Schertzinger worked from Gilbert's original mss, complete with marginal notations. The opera was reproduced as it was produced in 1885. It was a new screen technique, flying in the face of producer interpretation of the public's musical taste and in the face of the low level that has been dug for that taste by altogether too many of the tired and indifferent composers of the day.

And the recording was in the same manner as was employed by Universal in the making of "100 Men and a Girl."

It is still all a remarkable picture. That is one man's opinion, of a non-musician admittedly, who is convinced this opera fifty-five years old is going to carry remarkable appeal to every land where English is spoken.

It is his belief that quite ill-founded is the Hollywood timidity implied and expressed in a few vocal quarters that the subject will be inclined to go floppo when shown among those who may have failed to attain that certain exclusive and localized plane of sophistication.

But don't be misled. Go see it for yourself.

And if in that opera and in that performance of it you and others discover something in the way of genuine entertainment quite delightfully different from anything being created generally today, of painstaking lyrics that seemingly are unmatchable, then indeed has Universal performed a public service in bringing to us "Mikado" in all the accumulated glories of a rich half-century.

The local fire department paid a visit early in the morning of June 7 to the home of the American Society of Cinematographers in Hollywood. The providential arrival of the firemen at the moment when the fire was on the point of turning loose its fury prevented a blaze of total destruction.

The firemen worked rapidly and most efficiently, extinguishing the blaze without a trace practically of damage from water. So it follows for the intervening weeks there have been builders redoing the job.

Fred Coleman, in charge of the plasterers, let drop a remark to the effect he knew the house—in fact, he put in the plaster which the house has carried since it was built. That was twenty-five or more years ago, when it was erected by Coffin and Son, real estate men, for their own occupancy. In later years Conway Tearle bought the property and at 1782 North Orange Drive lived many years.

Where the entire block, from Hollywood Boulevard to Franklin Avenue, now is and for many years has been filled with homes, 1782 when erected stood alone.

Coleman recalled a characteristic of the construction of the house: Every piece of wood, he declared, large and small, put into it was white cedar. He suggested parallel construction is rare these later days, and possibly in many cases might be somewhat prohibitive.

SOUND MEN WITNESS REMARKABLE VOCODER TRYOUT

ON the evening of Wednesday, June 21, in the review room of Electrical Research Products Inc., sound department executives and engineers of the Hollywood major studios witnessed a demonstration of the machine described as the Vocoder.

The machine which with the strongest of reasons might better be described as The Cabinet of Doctor Somebody is contained in a structure perhaps seven feet square and high. It was developed by Homer Dudley and his associates in the Bell Telephone Company. Mr. Dudley and his assistant, Charles Vadersen, were delegated by the company to come to Hollywood.

While Erpi's representatives state the work on the device is in an experimental stage nevertheless it is unquestionable the company has something revolutionary by the tail.

Undoubtedly it is a realization of that fact that caused the heads of Erpi to depart from precedent in sending to the West Coast equipment on which they had not set the seal of their final approval—and with it delegating men connected with its creation.

The Vocoder was developed basically for telephonic use. And so quite naturally men schooled in the ways of sound will be impressed by it and by its possibilities.

Possibilities Unlimited

On the other hand, men trained in providing entertainment for the masses will be bound to envision its possibilities as limitless.

But note the coldly formal manner in which the company officially describes just what this machine accomplishes. It first characterizes it as an electrical instrument that investigates and analyzes speech and then proceeds to re-make it in practically any form desired.

To the layman it does that 100 percent.

Now while the Vocoder was developed basically for telephonic use, it also plays an important role in the Voder, the device for manufacturing artificial speech.

"Mr. Dudley and his assistant showed how easy it is to change the pitch of a voice, reverse voice inflection, raise a baritone to a tenor or soprano, or lower it to base tone."

They did more than that.

One of the most thrilling sequences was the brief period in which young Vadersen sang a trio; putting it another way, his voice was uttered to the machine as a solo. It emerged from the speaker as a trio.

It was a simple matter of using his normal voice. Then he set a key which switched on another wire a few points below his own voice and then a second that registered a few points above his own.

Of course, so far the device has developed but thirty ranges. Still, that would seem sufficient to give pause to the musicians of the world. It touches every phase in the realm of music.

It can build up or it can tear down. It can do much on the serious side of entertainment.

And in the cartoon field? "Snow White," which many believed would stand for years as the peak of entertainment, already is passe—and the first to recognize that as obvious will be Walt Disney.

For now it may be told that the Disneyan imagination really may run riot—what with voices of boys and girls, men and women, ogres and hobgoblins. Just imagine Donald Duck singing a trio!

But let the company tell its own story:

Official Statement

Presentation of the instrument to the studio sound executives was for the purpose of acquainting them with the newly developed machine, and to initial consideration of its possible use in motion picture sound recording, perhaps with modifications.

Usefulness of the Vocoder in speech studies lies in its ability to vary, singly or together, each of the elements of speech. The raw material of speech is two streams of sound. The proper variations of these two streams give us intelligible speech.

The first sound stream is characterized by three properties: it has a pitch which is determined by the fundamental frequency of vibration; it has an intensity which is determined by the total sound power issuing from the mouth of the speaker; and it is a quality which is determined by the relative amounts of sound power carried in fixed frequency bands.

All three of these properties of the stream vary as the stream proceeds. The second sound stream is characterized by having no pitch; it has a noise and has an intensity and quality which vary as the stream proceeds. During most of the speech only one of these two streams is active at one time.

Mr. Dudley proceeded to demonstrate the first mentioned sound stream, which he designated as "the Buzz." It was a rich full note, something like a muted automobile horn. From this note, electrical filters picked out thirty different ranges of overtones covering the gamut of the human voice.

The same filters then broke down the second stream—a hissing sound—into thirty ranges. These different sounds in their proper proportion form all the sounds of speech. The Voder, astonishing telephone robot at the two World's Fairs, mixes sounds by finger controls.

Tricks with Speech

What Mr. Dudley was demonstrating was a circuit which analyzes a voice into thirty parts and then uses the results to control the proper amount of each of the sounds before they reach the loud speaker.

After letting his audience hear a test sentence before and after it had been broken down and put together, Mr. Dudley showed how it would sound when the buzzer alone was used and its pitch was held constant: a flat monotone like a chant. By releasing the pitch, so it could follow the speaker's voice, more naturalness was secured.

Normal speech was converted into a whisper when the hiss was substituted for the buzz. While the hiss is relatively faint, it is essential in discriminating between "church" and "shirts," as was then demonstrated.

Expression, said Mr. Dudley, is due to the constant swinging up and down of pitch as one speaks. When the swings are cut in half, the voice seems flat and dragging; when the swings are

(Continued on Page 334)

High Sensitivity Featured in New Weston Meter



The new Weston Master, showing the "High-Light" scale

A NEW photoelectric exposure meter, designed to meet the most critical demands of modern photography, has just been announced by the Weston Electrical Instrument Corporation, Newark, N. J.

Known as the Weston Master, the new Model 715 fills such fundamental re-

quirements as (1) extreme sensitivity, for accurate measurements in low light; (2) increased light range, permitting measurements from 1/10 candle per square foot up to the extremely high value of 1600 candles per square foot; (3) accurate readability, provided by separate, automatically changing "High

Light," "Low Light" scales; (4) a more selective and sharply directional viewing angle for measurements in high brightness, as well as for cine and color work; and (5) an increased number of exposure values (f: stops, shutter speeds, film speeds).

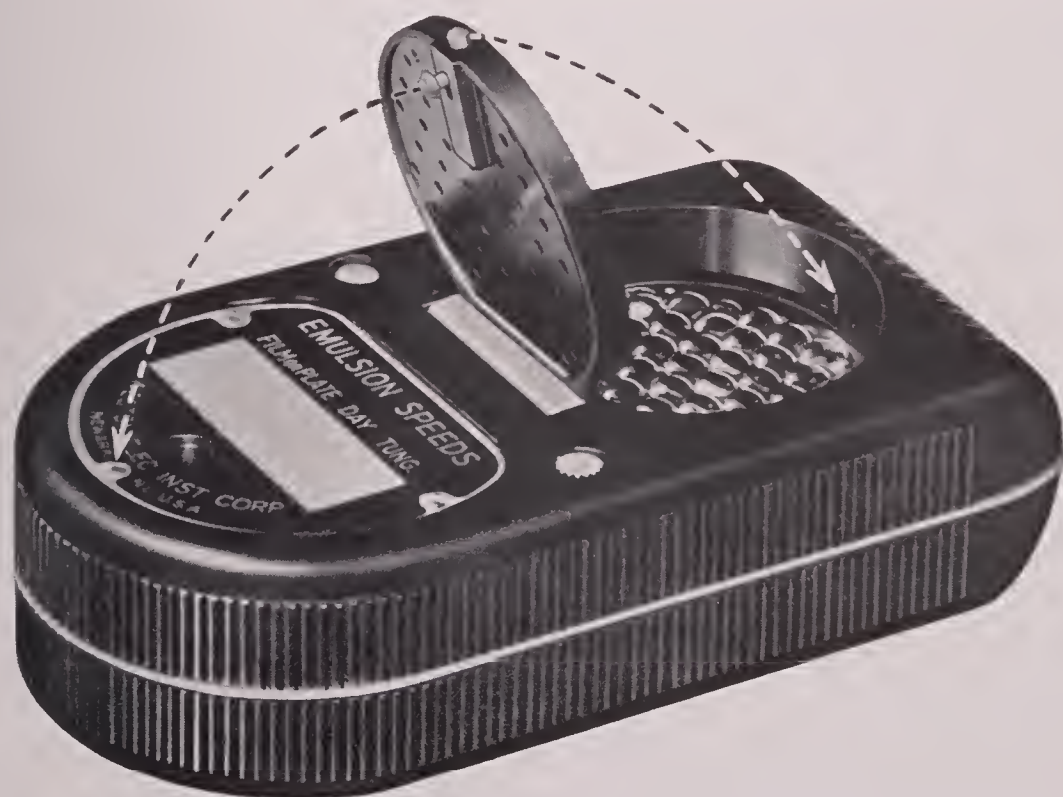
The extreme sensitivity of the new Master provides accurate exposure settings even in light down to the low order of 1/10 candle per square foot. In a room where, at night, a subject is seated near an average reading lamp, the brightness value of the subject will normally approach an intensity of about 5 candles per square foot.

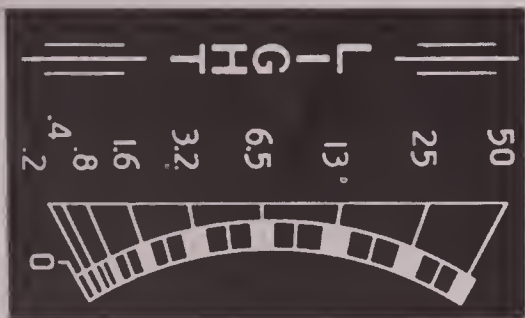
High Sensitivity

Thus the Master exposure meter has over 50 times the sensitivity required for such measurements. For this reason, the Master is particularly adapted to use in the studio, or for other professional work, as well as for all amateur needs.

Of greatest importance, however, is the maximum readability which is provided by the new feature "High Light,"

For measurements in low brightness, the louvre is merely snapped down into the left position. The scale reads zero to 50 candles per square foot. For high brightness measurements the louvre is snapped in position to the right. The scale then reads zero to 1600 candles per square foot.





Full size view of the Master's "Low Light" scale

"Low Light" scales, especially where measurements are being made in extremely low brightness.

When photographing is done indoors or elsewhere in low light the hinged louvre is merely snapped in position as described in illustration 1. At the same time, the "Low Light" scale automatically appears in the scale opening, calibrated from 0 up to 50 candles per square foot.

Covering a span of only 50 candles per square foot, rather than the entire light span from low brightness to high brightness as is usually the case, the Master's "Low Light" scale can have wide divisions and bold numbers; without the great congestion of confusing numbers usually appearing at either or both ends of the scale.

For this reason, too, the pointer on the Master moves a far greater distance for a given amount of light, so that the movement is easily seen and the light number always easy to read even when measuring in extremely low light.

When photographing is done outdoors, however, or in other high brightness the louvre is merely snapped in the opposite position. The "High Light" scale now appearing has a range up to 1600 candles per square foot. This top value permits readings in brightness far higher than has ever before been possible with pocket meters.

When the "High Light" scale is in use the viewing angle of the photocell is

only 30 degrees. This limited angle excludes extraneous side and top lights, a feature essential for cine and color work and one which provides greater accuracy for all still work in high brightness.

Prepare for Future

The calculator dial on the Master also is of new design with bold, legible figures. It provides an increased number of f: stop and shutter combinations because of the great increase in the light measuring range of the meter.

The dial also provides for film speed ratings of from 0.3 to 800 Weston, to take care of possible future requirements of high speed films.

Ease of operating the film speed dial is assured by the button at the side of the dial. When the button is depressed the dial moves freely. When the button is released the dial locks in the desired position.

In designing the new Master, particular attention was given to the size of its component parts to assure the highest degree of accuracy and ruggedness. The entire instrument movement, including the jeweled bearings, the resistance coils and the permanent magnet is big and rugged—large enough not only to be precise, but also to stay precise in service. The photoelectric cell is hermetically sealed in a moisture-proof housing, assuring stability under all humidity and temperature conditions, in addition to assuring higher order of accuracy and longer life.

Streamlined, functional design has been employed in the new Weston meter to produce a compelling, modern appearance, and to make it fit comfortably in the natural curve of the hand.

The outer edge of the molded case is ribbed, so that the fingers will not slip when the meter is being used. The decorative chromium strip around the edge forms a sturdy eyelet at one end of the meter to which a silk ribbon cord is attached for convenience in carrying. The Master is priced at \$24.

Ford Stages Contest

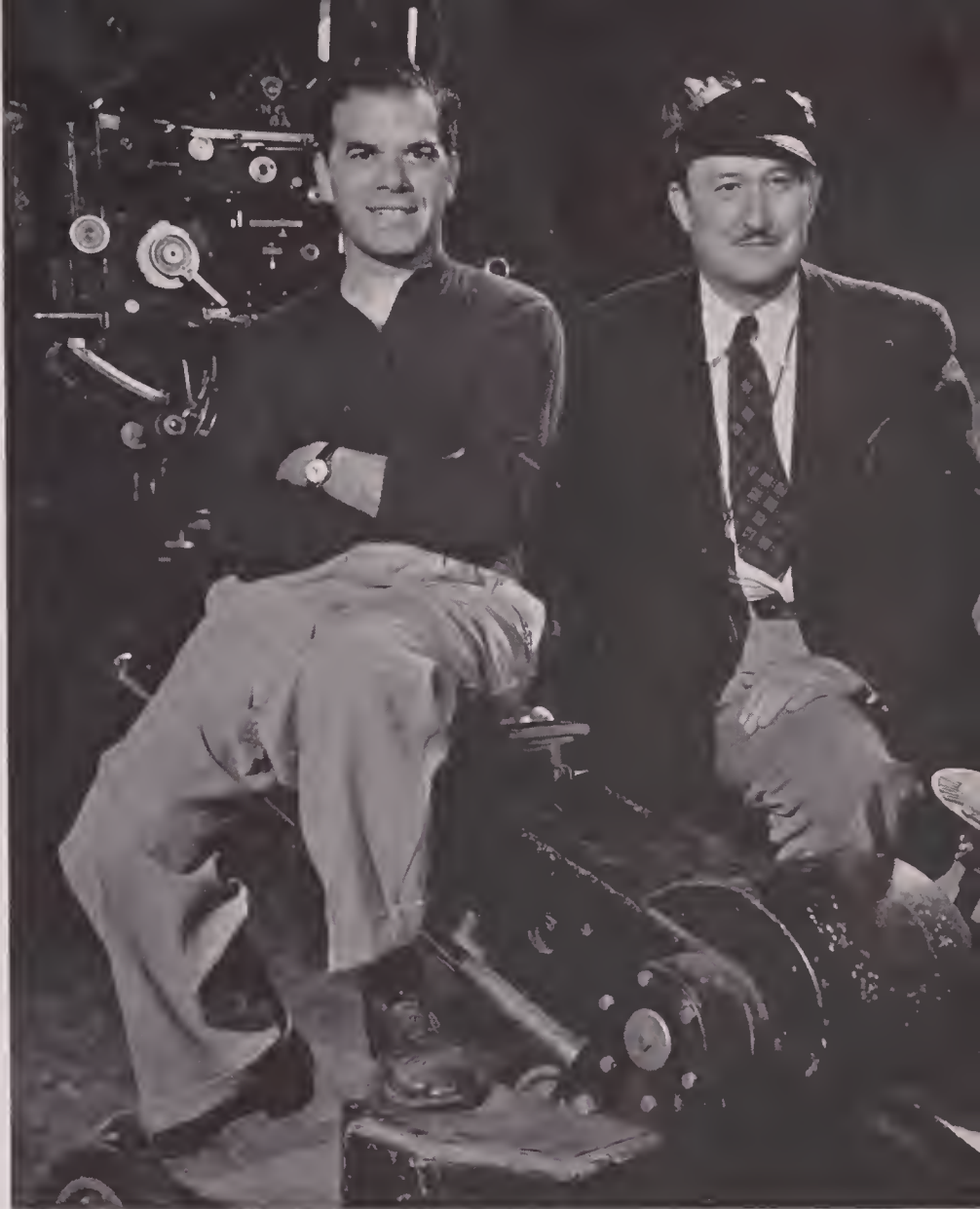
The Ford Motor Company is sponsoring the Ford exposition photographic contest for amateur photographers throughout the world. Four Ford V-8 De Luxe Fordor sedans, \$2500 in cash prizes and 400 certificates of merit will be given away. The contestants are restricted to amateurs who visit the New York Ford Exposition at the World's Fair.

Details may be secured from either Ford or photographic dealers.

Al Gilks, veteran member of the American Society of Cinematographers and for a long time serving on the Board of Governors, has been elected secretary-treasurer to succeed the late Frank B. Good.



WALKER WINS MAY CAMERA AWARD



JOSEPH WALKER, A.S.C., won the photographic honors for May in the Hollywood Reporter Preview Poll. The picture was Columbia's "Only Angels Have Wings," directed by Howard Hawks, starring Jean Arthur and Cary Grant. The picture also marked the return of Richard Barthelmess to the screen.

"Only Angels Have Wings" was one of the first pictures to employ Plus X film. At the time Walker was photographing this picture, none of the productions made on this film by other studios had been released for showing.

This meant that Walker was entirely on his own as far as knowing how Plus X would or should look on the screen. From the Hollywood Reporter Poll's verdict there would seem to be no doubt that he had found the film very much to his liking.

Walker went about the problem of handling the new film by placing a great deal of dependence on his exposure meters. He has several; some of which he has used continually for several years. He has seen a decided change in attitude toward meters on the part of the studio cameramen.

Attitude Changes

The ribbing that some of his associates indulged in at his expense when the exposure meter was new has given way to an entirely different attitude now

that the exposure meter is universally used on practically every motion picture set in Hollywood.

The meter is a great help when several photographic units are working on a big production, as all of the various units can compare meter readings when working on similar sequences, thus keeping the basic lighting scheme at a given level.

A number of separate photographic units were used on "Only Angels Have Wings." They were, as Walker recalled them, Elmer Dyer, A.S.C., and Charles A. Marshall, A.S.C., who made the actual shots in the air. In charge of other units were Russell Metty, A.S.C.; George Meehan, A.S.C., and Andre Barletier, A.S.C., who photographed the very fine miniatures.

Cooperation Counts

Walker was quick to point out that a great deal of the credit for the photography for a picture of this type is due to the excellent personnel in charge of the special units and their close and willing cooperation with the main unit at the studio.

Walker is engaged at present in photographing Frank Capra's "Mr. Smith Goes to Washington," which is the latest of an unbroken line of Capra films photographed by him, among them "Lady for a Day," "It Happened One Night," "Broadway Bill," "Mr. Deeds Goes to

Director Frank Capra and Director of Photography Joseph Walker, A.S.C., take a few minutes off at Columbia's studio. The former is president of the Academy of Motion Picture Arts and Sciences and the Screen Directors' Guild. The latter is a member of the board of governors of the A.S.C. The two of them have been teamed on many popular pictures. Representative of these is "It Happened One Night." It was the late Will Rogers who remarked on one festive occasion, by the way, the title of that famous subject should have been "It Didn't Happen One Night."

Town," "Lost Horizon" and "You Can't Take It with You."

The association between the two men dates from 1927, at which time Capra joined Columbia, and it has been uninterrupted.

The writer was privileged to sit back of the camera for an hour during the making of the present picture and he was given a clearer understanding of the reasons underlying the success of Frank Capra. His close contact with the director of photography gives him an unusual knowledge of the difficulties that have to be surmounted by the camera and by the men behind it, and that knowledge brings consideration for the work of the men associated with him.

AIR CAMERA CLUB PAYS HONOR TO FREMONT HIGH

HERE is an action shot of the photographic "free-for-all" that followed the Columbia Camera Club's entertaining air meeting of Monday, June 5, at which the guest was a high school student, seventeen year old Mark Kauffman.

Each week during its quarter hour meeting over KNX and the entire Western network of the Columbia Broadcasting System, the club has as its guest an outstanding photographer. Mark Kauffman appeared as Commentator Maurie Webster's honored visitor, just nine days after his exceptional portrait of Mrs. Eleanor Roosevelt was published on the cover of Life Magazine.

In his endeavor to find the explanation for Mark's amazing prowess with his camera Maurie discovered that he attended the largest high school photographic class in the West. As a consequence, an invitation to attend the broadcast was extended to the fifty other members of the vocational photography unit of John C. Fremont High School in Los Angeles. They all came, armed with cameras, flashguns and copious quantities of film holders.

With Mark on the program, also appeared Clarence Bach, head of the class; Art Rogers, one of the class members who does all prep sport pictures for The

Los Angeles Times; and Lillian don Vito, eighteen-year-old head of the school's portrait gallery. All four of them turned in top performances at the microphone, to the loud acclaim of their classmates when the program was concluded.

Each Monday night at 9:45 Columbia's Camera Club meets with Maurie Webster, who conceived the idea of the program, finding the entertaining, unusual and instructive stories about photography that have made the program an outstanding West Coast radio show. It has been designed not for the advanced amateur, but for his little brother—the box camera fan. He has found it an ideal place to learn more about photography, but, most of all, a source of inspiration to use his camera more frequently.

Proof of that fact is the club's membership list of six thousand listeners in the west who have written for membership cards in the club, and a great many of whom have listed their present camera equipment.

Enlarge Kodachrome Plant for West Coast Processing

With the construction of a new building in Hollywood the Eastman Kodak Company will bring to the coast addi-

tional service in the processing of Kodachrome film.

For more than a year 8mm. and 16mm. Kodachrome for amateur movies has been processed by Eastman in Hollywood. With the construction of the new plant, however, there not only will be greater facilities for handling the amateur movie film but inaugurates the processing of 35mm. Kodachrome used in miniature "still" cameras such as Kodak Retina, Kodak 35s and Bantams and professional (cut sheet) Kodachrome.

It is now necessary for still cameramen on Hollywood lots to send their 35mm. or professional (cut sheet) Kodachrome shots to Rochester for processing. This all takes time.

With the opening of the new plant in the early fall processing capacity will be more than doubled, thus assuring much faster service than heretofore obtainable.

Report on Preservatives

The Research Council of the Academy of Motion Picture Arts and Sciences has issued a comprehensive report on film preservatives available to the industry for treatment of release prints.

This report, which is being circulated for the information of the motion picture producing and distributing company executives and technicians, is based upon extensive tests conducted by the Council's Committee on Improvement in Release Print Quality.

Lafayette Branch Moves

After six years at 219 Central Avenue, the Newark (N. J.) branch of Lafayette Camera Corporation moves to its own building at 24 Central Avenue. Its exclusive occupancy of this building will provide two spacious sales floors, representing a three-fold increase in floor space, made necessary by the continued growth of this branch.

RCA Uses Academy Test

Cooperating with the Academy of Motion Picture Arts and Sciences in its efforts to raise the standards of sound motion picture reproduction in theatres, the RCA Photophone Division has arranged for its field service engineers in all parts of the country to utilize the new Academy test reel for judging sound quality.

Light moment during a recent radio meeting of "Columbia's Camera Club," at which the guests were, left to right: Art Rogers, student cameraman for the Los Angeles Times; Mark Kauffman, who made the cover of Life Magazine with his recent portrait of Eleanor Roosevelt; Clarence Bach, head of photography for John C. Fremont high school, where the young people study; Maurie Webster, CBS commentator who conducts the program, and Lillian don Vito, youthful head of the school's portrait gallery.



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ST. PAUL'S CLUB PUTS ON SHOW AT SECOND ANNUAL

THE St. Paul Amateur Moviemakers' Club held its second annual banquet in its home city at the Commodore Hotel June 6. Leading off the program was an address by Mayor William H. Fallon, who is a moviemaker himself. Then followed a list of five pictures.

The subjects shown were "Nite Life," by J. Kinney Moore; "Beyond Manila," W. G. Hahn (with musical transcription); "Shadow's Bones," Frank Gunnell; "Still Waters," Fred Ells (with musical transcriptions); "Nation's Builders," James A. Sherlock (with musical transcription).

One of the features of the evening was singing on a "community" basis. Mrs. Edna Marshall, the better half of Secretary Ford Marshall, was the author of the four subjects. The entire group gathered around an 8mm. projector as Mrs. Marshall played the piano. The songs were on positive film and were shown a line at a time, with a bouncing ball to count out the time. One of the songs was "Bei Mir Bist Du Schon," the words for the occasion being:

Oh here's where we learn
How money will burn
When we start to buy movie equipment.
How soon it will go
I guess we all know
When the postman says,
"Here's another shipment."
It's more than worth it all
When we make pictures well,
But when they don't turn out—
Well, then, it's surely . . . Hell!
We know how to splice,

Make titles so nice,
And we learned just what
A leader STRIP meant.

In the little program issued for the banquet we find this acknowledgement:

"We acknowledge with gratitude the courtesy of William Stull, A.S.C.; Dr. F. R. Loscher and Milton R. Armstrong, former president and secretary respectively of the Los Angeles 8mm. Club, who donated their time and talent to re-record especially for our club the musical transcriptions which accompany 'Nation Builders' and 'Beyond Manila.'"

"The original recordings, many of them imported from Europe, are from Mr. Stull's private library."

The two former 8mm. club officers contributed their own recording outfit and their time in making electrical transcriptions of the recordings used by the third member of the trio for the program in which the two contenders for the American Cinematographer's honors competed last year.

The St. Paul club is making these records available to any amateur movie organization which desires to use them in connection with the films. Such may address Secretary Ford Marshall, 1828 Eleanor street, St. Paul. The president of the organization is Kenneth Hezzelwood.

In January, 1937, eighteen men formed the 16 and 8 Cine Club. In the following October the club changed its name to the St. Paul Amateur Moviemakers Club. In the same year the club produced a film for the St. Paul Public Safety Department, "Spare the Evidence,"

which has been widely used as a teaching film in local and national police work as well as by the Federal Bureau of Investigation. During the past year the club has engaged in producing a documentary motion picture record of the St. Paul School Police which will be finished in the near future.

Father Hubbard Recording Eskimo Music and Chants

THE vanishing native music and chants of the primitive Eskimo race are to be preserved on phonograph records and motion picture film by Father Bernard R. Hubbard, famed "Glacier Priest," who will record them for RCA Victor this Summer during his eleventh Alaskan expedition. They will be released to the public as soon as possible.

Utilizing an RCA Victor portable recording unit and 100 12-inch RCA recording discs, Father Hubbard will make the historic recordings in the isolated settlements of the Eskimo tribes.

In addition to being released as phonograph recordings, the strange music and chants, never before heard outside the vast reaches of the far North, will be "dubbed" on motion picture film for use on a lecture tour of the United States which the priest plans to make when he returns.

The recording unit is a newly developed instrument, hardly larger than an ordinary suitcase. Recording, amplifying and playback equipment is all included in a single case. It records on either ten-inch or twelve-inch discs.

Capt. Mulkey Returns East After Eight Months Study

Captain Dwight L. Mulkey of the Signal Corps of the United States Army, who has just completed an eight months' course of study in motion picture production under the auspices of the Research Council of the Academy of Motion Picture Arts and Sciences, left Hollywood last night to return to Washington, where he will be engaged in the production of army training films.

While in Hollywood Captain Mulkey spent some time in each technical department of each studio studying actual production procedures as well as investigating the manufacture and operation of sound recording equipment, motion picture cameras, film, and other equipment and supplies used in the studios.

Under the present War Department Motion Picture Training Film production schedule approximately twenty reels of training film are produced each year.

The next officer scheduled to take the training course is First Lieutenant Harry J. Lewis, who will arrive in Hollywood from the East early in September.

Four members of the St. Paul Amateur Moviemakers' Club examine the turntables and amplifier. They are, left to right, L. L. Harmon, E. E. Baumann, Lloyd Oliver and Louis Finn. Courtesy St. Paul Pioneer Press.



British Cinematographer Talks of Hollywood

By FRED YOUNG, F.R.P.S.

DURING the many years I have been a reader of *The American Cinematographer* I have from time to time read and enjoyed articles in which outstanding members of the A.S.C. have discussed their experiences making pictures in England. Knowing these men, often from working in the same studio with them as they made their productions in my country, I have been impressed by the fair-mindedness shown in their descriptions of British studios and conditions.

Today I find myself in a similar position, as I have been asked to write something about my impressions, as a representative of Britain's camera profession, of making a picture in Hollywood.

Although as this is written, the production is by no means completed, I feel that it has been a privilege and a pleasure to be able to take part in the making of a Hollywood production, and especially to be associated with Joseph August, A.S.C., in photographing Anna Neagle in the Herbert Wilcox-RKO production "Nurse Edith Cavell."

The friendship and cooperation everyone has extended to me could not have been bettered had I been working at home in an English studio. That friendliness will be remembered long after much of the rest of my Hollywood visit is forgotten.

Technical Resources

From a less personal viewpoint the dominant impression a British visitor gets as he works in Hollywood is the—to us—incredible abundance of Hollywood's technical resources.

By this, I do not wholly mean equipment or physical facilities, for in England now we have, as the A.S.C. members who have worked there have pointed out, quite a number of studios as well equipped and nearly as large as those in Hollywood.

We have many excellent directors of photography, sound engineers, art directors, and the like. But we are not so fortunate in our supply of trained technicians of the lesser grades—operative camera crews, electricians, studio carpenters, property men, "grips" and the like—to back up the efforts of our key technicians.

We have them, but none too abundantly; and as a rule few of them have behind them the long experience of their Hollywood counterparts.

This is in a great measure due to the way our industry in England has de-

veloped. For a long time, as is well known, it struggled along with little or no encouragement. Then a few years ago, it suddenly expanded.

The expansion was so rapid that it could be quite truthfully called a "boom," and, like most overrapid booms, it was followed by a near-panic while the industry consolidated its gains.

As a result, we have not been able to offer really consistent employment even to our more experienced men, still less to the many less experienced ones.

Crew Breaks Up

Too often, at home, you will start a picture and, when you come to assemble the crew you had on your previous one, you will be unable to do so.

The operative may have gone to another studio; the young fellow you had just begun to get trained to be a satisfactory assistant will have dropped from sight, while your electrician may have grown discouraged and gone back to his old job outside the industry—where paychecks came more steadily.

And you will have to start in afresh to train a new crew from relative newcomers.

Here in Hollywood it is so different! It seems almost incredible to learn that if any of my American friends finds it for any reason impossible to use his regular crew on a new picture, he can virtually choose blindfolded from the many men available for each job—and find himself with a dependable crew, the youngest of whom will have had five, ten or even twenty years of studio experience.

It is equally impressive to see how the same is true on the other side of the cameras, as well. Our picture, "Nurse Cavell," calls for a good number of bit players and extras to represent German soldiers and officers, French and Belgian soldiers and villagers, and British nurses, soldiers and civilians.

At home, with the exception of the English parts, we might have some difficulty finding enough convincing-looking Prussians, Belgians, and the like for our requirements, even in the larger supporting parts.

Here a simple telephone call brings us as many as we need, all of them not only perfect "types," but thoroughly camerawise.

I am sure some of my friends at home will doubt me when I say it would be the same had we needed Chinamen, Poly-

nesians or Hindus in almost any number!

As far as photo-technical equipment is concerned, there is very little to choose between Hollywood and one of the newer British studios.

British Advantage

In some respects, I think the newer British studios may have a bit of an advantage in the fact that they were either completely built from bare ground, or at least greatly expanded within just the last few years, while the studios in Hollywood were built and basically equipped many years ago.

In lighting equipment we in England have the same lighting equipment for black-and-white and Technicolor that is familiar in Hollywood. In some cases we have more of the newer lamps than you, because our studios have had to obtain a complete set of lighting equipment all at once, rather than getting a few new units here and there to replace or supplement old but still useful lamps.

Stage space and sets are pretty well on a par on both sides of the Atlantic. In fact I believe the Denham studio has one stage as big or bigger than the largest in Hollywood. There are minor differences in such details as power distribution and set-platforming, but, in general, once you get on the stage the only thing to tell you whether you are in Hollywood or in England would be the accents of the stage crews.

There is one phase, however, in which Hollywood seems definitely ahead of our British studios. This is in the matter of cameras.

We use much the same type of cameras, it is true—in most instances Mitchells, though in studios where French or German cinematographers have been active there are De Bries, while a few of the smaller plants use the less expensive, British-built Vintens.

Cameras Scarce

But our studios are not nearly so plentifully supplied with cameras as is common in Hollywood. Some of us have tried to argue that this was false economy, but without much success.

Here in Hollywood, if some accident happen to the camera you are using, you can have another one, equally dependable and of identical design, on the set in a matter of minutes. If a scene should require it, you could have five or

(Continued on Page 334)

SHOOT THREE DIMENSION PICTURE WITH POLAROID

AS absorbing as the three dimensional movie itself is the story back of the first full polaroid motion picture ever to be made, which is being shown to thousands daily in the Chrysler Motor Building at the New York World's Fair.

A total of thirty-six days was required to "shoot" the thousand feet of film that runs for some twelve minutes; and 10,960 different "frames" were photographed by Loucks and Norling, in creating the picture that literally makes audiences gasp.

This audience reaction results from the fact that the picture leaves the screen and projects itself in front of each visitor; thus a machine that moves forward in the picture seems to come so near that people in the audience instinctively duck or move backward, to avoid being hit by the illusory threat of impact.

All visitors viewing the film wear special polaroid lenses, which are given them as they enter. Through these they see actual operations in the half-mile long Plymouth plant in Detroit, with stop motion pictures that show a Plymouth magically assembling itself without the aid of human hands. The various parts of a Plymouth car, numbering more than 15,000 altogether, come waltzing in together or separately, apparently under their own power, to take their proper places in engine, chassis or body—all in carefully synchronized step to the beat of the music.

Make Wires Invisible

For taking the picture three special stages were erected. On these stages each car part had its every different movement separately photographed. Scenes in which parts move along the floor involved no great difficulty—devices as simple as a big wad of chewing gum were adopted to hold them in position after they had once reached their place.

But to make a heavy motor or an entire body sail in through the air raised real technical problems. Overhead trolley tracks were built from which to suspend these parts on thin steel wires. To make these wires invisible, they were plucked like a banjo string at the moment of being photographed, the rapid vibration serving to prevent their registering on the film.

The order of the scenes in the film follows exactly the actual routine in the plant. The producers realized that the Plymouth engineers had devised the order of the assembly of the various parts on the assembly line in such a way that the whole car could be brought together with a minimum expenditure of effort.

Thus Loucks and Norling followed this standardized assembly routine religiously. Every foot of film was assigned to its own particular "frames" in advance of the shooting. This enabled

the producers to discard the ordinary cutting room practice of film assembly.

Similarly, the music was composed and its score adjusted to the footages before shooting commenced. The result is that the inanimate objects in the picture move in exact time with the musical beat.

One of the most successful musical themes in the picture—judging by audience reactions—is an adaptation. This is the scene where the newborn chassis arises on its rear wheels to peer around the world and sing, "Where, Oh Where Can My Body Be?" The tune used by the car is the familiar "Where, Oh, Where, Is My Little Dog Gone?"

Seen With Polaroid

To create the three-dimensional effect, the scenes were photographed by a camera with two "eyes," and two synchronized projecting machines are used in the specially built theatre in the Chrysler Motors Building.

Visitors able to take their eyes from the exciting scenes shown on the screen can note the two beams of light carrying the images from the projection booth to the screen, where they are "scrambled" for the eye that views them with-

out Polaroid lenses.

With the aid of Polaroid a clear separate picture is shown to each eye, just as each eye sees a separate picture in real life. It is the combination of these two disparate pictures in the brain that creates the third dimensional sensation. The old fashioned stereopticon was an attempt to use this principle, and it created pictures with depth of background.

It is now possible for the first time, by the use of polaroid material, to obtain also depth of foreground. This is the reason the pictures seem to leave the screen and enact themselves directly in front of each member of the audience. The screen in effect becomes an open window, through which the actors, animate or inanimate, move and fly back and forth seemingly at will.

Polaroid film looks like slightly darkened cellophane. Unlike cellophane or any other material, it contains 1000 billion invisible crystals per inch. These crystals change the shape of the light vibrations that pass through. Light comes in like a rod, goes out like a ribbon.

In projection, two films are thrown on the same screen through polaroid filters, so turned that the picture for the right eye is made up of ribbons running from side to side, while the picture for the left eye is composed of ribbons running vertically. The polaroid spectacles worn by the audience have their ribbon slots arranged to correspond, so that each eye sees one picture only.

INSTALL TWO THEATRES IN FAMED FILM LIBRARY

ONE of the most interesting features of New York's new Museum of Modern Art Building is its famed Film Library, where the story of the development of the motion picture industry from its struggling beginnings to its present high status is preserved on movie film.

In the ultra-modern Museum quarters, at 11 West Fifty-third street, two small theatres have been constructed for showing the valuable collection of films to visitors for educational, non-commercial

purposes. The films provide a complete history of the industry's progress from the famous "The Execution of Mary Queen of Scots" (1895) to the present day. Historic films from several European countries are also included in the collection.

To present the sound films in the collection, the Museum authorities have installed streamlined RCA Photophone sound reproducing apparatus in both theatres. The smaller auditorium, used by the Museum staff for classifying and editing films, and for small lecture groups, is equipped with a small sound reproducing system which has been in use for only a short time in the old Museum building, and was moved to the new location.

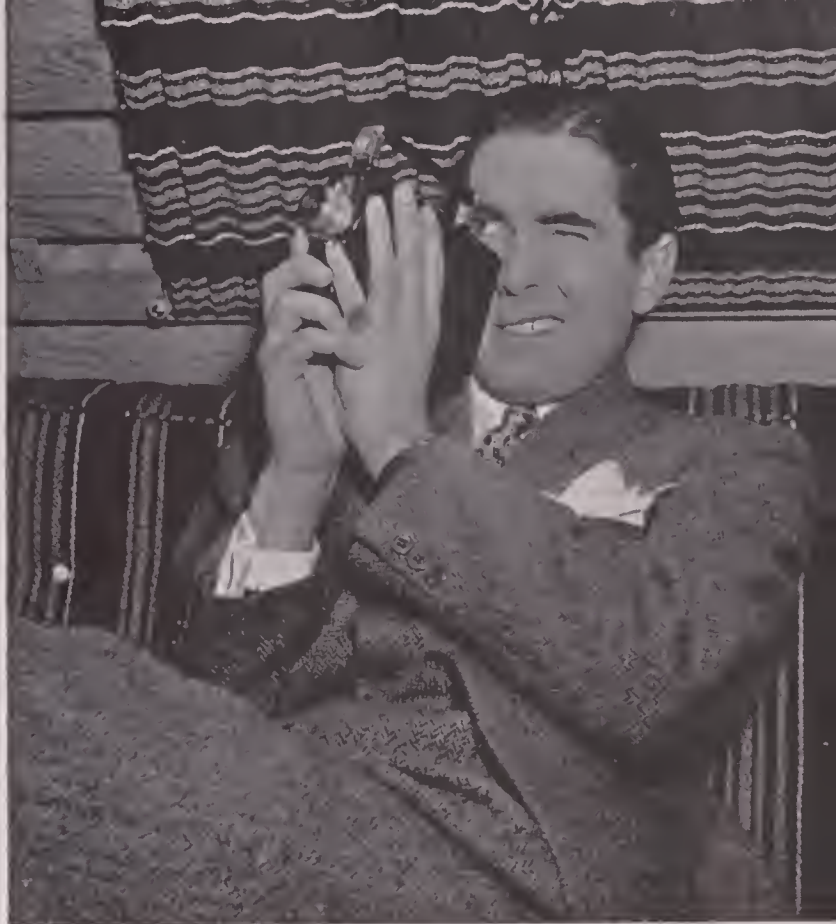
The larger auditorium has, besides a new equipment for sound-film reproduction, an RCA public address system for use by lecturers.

In both projector installations, special drive equipment has been installed to permit variation of film speeds from 60 to 90 feet per minute to accommodate the varying speeds of the early pictures as well as the standard speeds of modern films.

ONE of the welcome visitors at the office of this magazine during the last month was Henry L. Washburn of Santa Cruz, Cal., a man who makes good movies because he likes to make em . . . and incidentally one who enjoys giving pleasure by showing them to his friends—naturally better if the subject is one from his own camera but anyway from some one else's if he can obtain it for them.

TYRONE POWER'S CAMERA RECORDS ANDES

By WILLIAM STULL, A.S.C.



ATALL, handsome young fellow moved purposefully about the portrait gallery of the Twentieth Century-Fox Studio, moving "broadside" lamps and spotlights into place to illuminate a row of wooden letters arranged against a gaily-colored cloth background.

A few feet away stood a magazine-type 16mm. camera on its tripod. If he weren't quite so coatless and dishevelled, I thought, I'd say he was Tyrone Power. But I know Ty isn't supposed to be working today—and besides, who ever heard of a movie-star coming back to the studio to fool with home movies on his day off?

Closer inspection, however, proved that this perspiring amateur was indeed Tyrone Power, obviously having the time of his life trying to get just the right lighting for his private job of title-making.

"Yes," he admitted, "I fool around a bit with 16mm. and have a lot of fun doing it. But strictly in an amateur way: I've been around the studios long enough to learn the difference between even a good amateur and a professional cinematographer like Pev Marley, Leon Shamroy and the other A.S.C. boys, and I know mighty well I'm only in the amateur class!"

"Right now I'm spending most of my spare time trying to get the film I shot in South America whipped into shape. I've got it cut and put in enough titles so it comes somewhere near making sense—and I'm trying to get the rest of the titling job finished up as fast as I can.

Simple Cloth Background

"As you see, I'm using these cut-out wooden letters for my titles. They've little pins sticking out of their backs, so you can make them stay put on any sort of background you want.

"For some of them, I'm using a simple cloth background. For others—those that tell where I went—I used a map of

South America, putting the letters over the appropriate spots on the map.

"I've been having lots of fun lighting these three-dimensional letters! Take a spotlight, you know, pulled down to a good tight beam, and you can get some swell shadow-effects with back-lighting and cross-lighting. And did you ever try using colored gelatins over some of your lights? With these white wood letters, you can get some interesting color effects in Kodachrome that way.

"Sure, I do almost all my filming in Kodachrome. Why not, when it makes the picture so much more interesting than black-and-white? And down there in South America, everything is so colorful it would be a shame to use anything but color for your movies.

Travels Light

"Yes, I suppose I'm lucky to have a chance to use this studio lighting equipment. Whenever I have the opportunity, I come over here to the gallery and the boys let me borrow their lamps. Sometimes, on week-ends and the like, they let me take a couple home with me so I can experiment with titles, closeup lighting and portraits.

"And speaking of lighting, I ran into something queer down in Chile. Most deceptive light conditions I ever heard of; the light just never behaves the way you expect it to. When the sun is out and shining brightly, your meter doesn't read half as high as you feel it should.

"Then when the sun slips behind a cloud and you pull the old meter out, you get another surprise, for it reads a lot higher than you think it has any right to.

"Actually, there's precious little difference between the intensities of sunny and cloudy weather there. No—it wasn't up in the mountains, but down along the seacoast, where you'd expect to find things pretty normal.

"Since I made a lot of that South American trip by air, I traveled pretty light. My camera outfit consisted of my magazine Cine Kodak, a couple of thousand feet of Kodachrome, in the tropical packing, my meter, and the Exakta I use for stills.

"I just learned something interesting about filtering with the Exakta, by the way. A few weeks ago I took a little vacation in the snow at Sun Valley; of course I took the cameras. Now ordinarily, I use a red filter for most of my black-and-white shots; I like the crispness and the dark skies you get that way.

"But working in the snow, I found you get better results with a much lighter yellow filter—it lets you get into the shadows better, and balance your exposures so the snow looks a lot more natural.

"I get a lot of fun trying out different ideas, and finding out things like that for myself. Of course all the cinematographers I work with, and their crews as well, are swell about giving me hints on this and that—and you'd be surprised how much you can learn about shooting Kodachrome from watching the way they shoot a Technicolor picture like 'Jesse James.'

Marley Helped Much

"But a studio cameraman has such a responsible job, and is kept so busy at it, that I hate to bother him with my amateur problems.

"Pev Marley, though, has helped a lot outside of regular working hours. You see, Pev is one of my closest friends—close enough so that when I show him my films, I know his criticisms are meant constructively.

"And how he can find flaws in even my 'pet' scenes! When I turn out a shot he can't rip apart critically I feel as proud as though I'd won the Academy's Cinematography Award!

"How did I get started in 16mm.?"

Well, it began a number of years ago, when both 16mm. and I were pretty young. I got a camera, and shot up as much footage as I could afford, with results that today seem pretty horrible. Finally, I hit a spell when jobs and I weren't on speaking terms.

"It got to a point where I had to take my choice between selling the camera, and eating—and keeping the camera and not eating. So I got rid of the camera. But as soon as things began breaking for me, I got another camera!"

At this point I had to leave, to continue the business that brought me to the studio. But later I encountered Peverell Marley, A.S.C., who had a lot more to say about Power's cinematography.

"Listen, Bill," he told me, "don't let that chap fool you when he says he 'just fools around' with a camera. He's just about the best cameraman that ever held a card in the Screen Actors' Guild! Ty may say he does things in an amateur way—and both you and I have seen enough amateur films in the American Cinematographer's Contests to know how good a really good amateur can be—but Ty's photography is edging mighty close to the professional class!"

"The boy knows lighting and exposure, and he's got a real eye for composition. In addition, he knows how to pick interesting subjects, and how to make them into a really interesting picture.

"You know, he shot 2000 feet of Kodachrome on that South American trip: well, he's edited that down to a neat 1500-foot picture, one that is photographically excellent, and that moves along nicely.

Has to Buck Crowds

"You've got to give him extra credit for turning out a job like that, just because he is Tyrone Power. That one little fact starts him off with a big handicap in making any sort of a travel-film. You or I could go down there and shoot anything we wanted, and nobody would give a hoot.

"But with Ty it's different: let him go out on a quiet prowl for pictures, and sooner or later somebody recognizes him—and the crowds start coming. When you're the center of attraction for a crowd of several hundred enthusiastic fans, you can't do much picturemaking!"

"But when he could manage a little shooting unobserved, he really went to town with his camera. He has one sequence in his picture, showing the customs in a quaint little Indian town in Chile, with an unpronounceable name, that is fine.

"He really managed to get local color into it—the native markets, the religious processions on a feast-day, with the priests and acolytes gathering outside the village church swinging censers, all photographed with an eye for first-class pictorial effect.

"And whenever he has a chance to get such things he knows the value of shooting plenty of closeups to make the story complete.

"He probably wouldn't tell you this, but here's an incident that really shows how enthusiastic he is about his movie-making.

"Ty crossed the Andes by air. Getting over those mountains, the airliners have to fly at altitudes well over 20,000 feet. That's high enough so the passengers need oxygen to supplement the rarefied air.

"Each passenger has his own oxygen tank and 'breathes' through a rubber tube he is supposed to keep in his mouth while the plane is up at that four-mile altitude. Without this help, the air is too thin to breathe, and you can lose consciousness in a very few minutes.

"Well, flying over the Andes, even that high, the mountains are pretty close to you. And those peaks are spectacular picture material.

Shooting at 20,000 Feet

"Ty knew this, and had arranged with the pilots to let him come forward into the 'office'—the pilot's cockpit in the nose of the ship—and get some pictures of the most interesting stretches.

"This meant he had to leave the security of his oxygen tank behind, and take his chances in the thin, weak air. But he wanted those pictures, air or no air! He was willing to take the chance.

"At the appointed time, Ty moved forward and got his cameras into action,

Kodachroming the backbone of South America.

"All of a sudden, he found himself beginning to get dizzy. Things began to blur as he squinted through the finder. But he kept on shooting. Finally, after he had bagged a shot that insisted on dancing around the finder like an impressionistic montage, and his knees began playing 'rubber-joint' tricks Leon Errol couldn't beat, the pilots ordered him back to his seat—and his oxygen tank.

"He didn't want to go—he still had plenty of film and the scenery was getting more impressive all the time—but the pilots insisted, strenuously, and after all, they were in command of the ship.

"Later, after they had landed, the Chief Pilot told Ty that if he'd delayed getting back to his oxygen a few seconds more, he'd have been out as cold as though he'd stepped into Joe Louis' Sunday punch!"

"When you find a chap who will voluntarily turn his back on the security of his supply of safe, breathable air and risk 'passing out' in air that's too thin to breathe—knowing beforehand what its all about—and do it all for the sake of getting a few pictures, you've found a fellow who is a real, dyed-in-the-wool cinematographer!"

MINES BUREAU REVISES FOUR PETROLEUM FILMS

WITH the aim of keeping its extensive motion picture film library dealing with the mineral industries abreast with scientific and technologic attainments, the Bureau of Mines, Department of the Interior, has just completed the revision of four petroleum films.

Although the original titles remain unchanged, the revised films make available for visual-education work a fund of new information pertaining to the manufacture of gasoline, the manufacture of lubricants, the proper uses of lubricants in the operation and care of automatic equipment, and a comprehensive story of the evolution of the oil industry. Each of these four films has been revised through the financial assistance of the original cooperating companies.

Bureau of Mines film No. 99, *The Story of Gasoline*, takes the observer on a tour through a modern refinery and shows intricate equipment required to convert oil into motor fuel by the proper use of heat and pressure. Some exceptionally fine photography shows how gasoline is used to extend commerce and add to the pleasure of recreational pursuits.

A somewhat similar treatment is given film No. 120, *The Story of Lubricating*

Oil, in that it shows how lubricating oils are made, and how paraffin wax—a detrimental substance in lubricating oils—is transformed into useful products.

No. 151, *Automobile Lubrication*, is a one-reel film that should be used extensively in educational work by those concerned with modern methods of lubricating automobiles.

Film 153, *Evolution of the Oil Industry* (revised), was recently given its premiere showing at the World-Petroleum Exposition, Houston, Texas. Whereas the former film of this number contained three reels, the new film has been lengthened to four reels in order to show many new developments in petroleum technology in all its branches. None of the important allegorical or historical episodes has been deleted in revising the film.

Copies of these films, which are all silent, are available in 16mm. and 35mm. size for exhibition by schools, churches, colleges, civic and business organizations, and others interested. Applications should be addressed to the Bureau of Mines Experiment Station, 4800 Forbes Street, Pittsburgh, Pa. No charge is made for the use of the films, although the exhibitor is expected to pay the transportation charges.



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16 MM. REVERSIBLE
PLENACHROME
AND PANCHROMATIC

FILMS



Time and Temperature Versus Test for Negative

By Irving Millard, Night Superintendent
Cinema Laboratories, Inc.

*Reprinted from
Agfa Motion Picture Topics for May-June*

ALTHOUGH the laboratory processing of pictorial motion picture negative film has to a certain extent been standardized in recent years by the imposed limitations of composite sound and picture printing, there still exists a considerable difference of opinion as to the best methods to employ within those limitations to produce uniformity of contrast and density and at the same time to obtain in the developed negative the fullest measure of the artistic and dramatic effects created by the cinematographer.

In general, there are in use today two basically different methods of negative development, each of which has its advantages and advocates and, inevitably, its disadvantages and its opponents.

These methods are the "time and temperature" method and the so-called "test system" of development.

Time and Temperature

The present article is not intended as a vehicle for partisan arguments for or against either of these systems, but instead to serve the more useful purpose of providing a convenient summary of the facts regarding each, together with an impartial discussion of features which under practical conditions have been found to be assets and weaknesses of each.

Under the time and temperature system negative is processed day by day at an established time of development,

in solutions maintained at a constant and favorable temperature.

Solution control is generally exercised with the aid of sensitometric and visual solution film tests processed at regular intervals. Uniformity of solution strength is maintained by chemical manipulation.

Test System

Specifications established by experience as representing the most desirable standards for the proper development of normally exposed negatives are rigidly observed. This system therefore offers the cameraman a theoretically constant factor of development to which to peg his manipulations of lighting and exposure.

Differing radically from the time and temperature system of development, the test system is based upon the pre-examination of test strips which serve as a guide by which the developing time for the production negative may be altered in order to coordinate more closely the factors of negative exposure, density and contrast with the requirements of the positive printing scale.

In this method solution temperature and strength are held constant, but the developing time is altered to suit the needs of the individual negative. Solution maintenance is effected by substantially the same methods as used for this purpose under the time and temperature system.

This system therefore offers the cinematographer a certain measure of protection when he is working under unusual or difficult conditions, and theoretically allows a welcome flexibility.

The advocates of each of these systems naturally take pains to add to these sometimes theoretical arguments facts of a more practical nature with which to uphold their contentions. Among those most justifiably advanced by exponents of the time and temperature system may be mentioned the following:

First, the possibility of reproducing without alteration or distortion an exact monochrome replica of the photographed scene.

Second, elimination of the need for making tests which are inevitably more or less costly to make, and which can in many cases be inaccurate or misleading.

Third, reducing by one (the test reader) the variables interposed between the cameraman and the screen.

Fourth, the maintenance of an unvarying standard of negative processing to which the cameraman may adjust himself, and thereby be able to secure in a direct line the desired contrast and mood in his screened picture.

Theory vs Practice

In theory, the writer has always held that the time and temperature method places the responsibility for negative uniformity both as to contrast and as to density in the hands of the cinematographer, where it rightfully belongs.

Reducing the number of variables between his work and the screen is also a step in the right direction, since he alone possesses the complete knowledge of the effects, mood and visual tempo for which he is striving—a knowledge which in the existing structure of production is not readily available to the laboratory.

In practice, however, certain conditions tend to offset some of these theoretical advantages of the time and temperature system, as the adherents of the test method are at pains to point out.

First among these is the virtual impossibility of maintaining a standard of absolutely consistent processing. While, in comparison to what was common only a relatively few years ago, we are justifiably proud of the consistency of modern methods and machines, it must be admitted that this consistency is relative, rather than absolute, and that in methods based on consistent solution strength, temperature and machine speed, sufficient errors, minor in themselves perhaps, but cumulatively of noticeable magnitude, can occur.

It also has frequently been pointed out that this system of development lacks the flexibility which would enable the laboratory to aid the cameraman by making compensation for the inevitable small day-to-day variations in his lighting and exposure. In addition, such a system utterly lacks the flexibility to

help him by under or over developing negative photographed under unusual and abnormal conditions.

Tests—Pro and Con

Laboratories employing the test system point especially to the following facts as advantages obtainable by that system:

First, the proper making and use of tests affords very considerable protection insofar as the printing scale is concerned to the cinematographer forced to shoot under abnormal or subnormal conditions.

Second, it affords similar protection to cinematographers who by habit light in either a dangerously low or a dangerously high key.

Third, it permits absorption of the effects of the inevitable slight solution differences which may exist from day to day. The same factor similarly aids in smoothing out the individual cameraman's day-to-day variations in lighting and exposure previously referred to.

These advantages are equally beneficial to the cinematographer working on a major studio's top-budget productions and to his fellow cameramen working under the restrictions of short schedules and budgets.

If anything, they can be more valuable to the latter, as such conditions often necessitate long and fatiguing hours and occasional disregard of ideal photographic conditions.

It is the function of any laboratory when faced with such conditions to offer all assistance possible, and it has repeatedly been proved that in such circumstances forced development of underexposed negative, or retarded development of overexposures to a point permitting adequate printing densities, even if at some loss of perfect photographic quality, has been beneficial to the screen appearance of the picture as a whole.

Time Required

On the other hand, it must be pointed out that the tests involved require valuable time and effort if they are made properly, and even so can under modern conditions prove misleading.

Consider, for instance, a light-effect shot in which a strong beam of light is to simulate sunshine coming through venetian blinds which are to be closed during part of the scene, but are opened later in the shot.

A test made for the initial lighting, with the blinds closed, will give no indication of the exposure values when the blinds are open, and vice versa, so that it is unpleasantly easy to develop the scene incorrectly on the basis of such a test.

The same applies with equal force and greater frequency to the modern moving-camera shots, in which the camera may dolly through a very considerable range of lightings and exposures within a single shot.

The test system, too, if carried out on a proper scale, demands an intimate cooperation between the cameraman and

the laboratory if it is to function to advantage. Such cooperation, under modern productions conditions, is difficult, if not impossible, to obtain.

On the other hand, in most laboratories today the need of frequent tests can be made, and is minimized by the fact that after the initial tests have been made the laboratory can establish a normal average developing time for each cinematographer's negative.

Thereafter, in normal production, tests need be made only as a safeguard or check comparable in a way to the laboratory's own visual and sensitometric tests, and of course as a means of guiding the laboratory when any unusual conditions have been faced on the set.

Practical Conclusions

In conclusion, it may be remarked that there exist certain practical aids which may be utilized by cinematographers working under either of these methods of negative processing, and which will help in overcoming the weaknesses of the processing system involved.

An outstanding weakness of the time and temperature system is the fact that it subjects all negative, regardless of lighting or exposure, to a fixed standard of development. The cinematographer operating under this system of negative processing can therefore protect himself to a degree by selecting a negative emulsion having the maximum exposure-latitude characteristic.

In this way he can expect the film itself to aid in compensating for any unevenness of exposure levels.

In this connection, too, it must be pointed out that the intelligent use of a modern photoelectric exposure meter can be of tremendous aid to the cameraman in maintaining on his part a

consistency of lighting and exposure values which will match the standardized negative developing procedure.

It is significant that the two organizations making the most extensive use of photoelectric light-measuring devices both use the time and temperature method of negative processing.

Meters No Royal Road

Cinematographers whose negative is processed in plants using the test system can anticipate that their negative, in the interest of maintaining consistent printing densities, may at times be over or under developed to some extent.

They will obviously find it an advantage to select a negative emulsion which offers a wide latitude in development.

Since consistency in exposures will obviously minimize not only the number of tests required, but also the laboratory's manipulations of the developing time, these cinematographers, too, will find the proper use of photoelectric exposure meters beneficial.

In this connection, however, it is well to echo the statement frequently made by other writers, that these meters must be used with intelligence or not at all.

In general, it can be seen that as practiced today, both the time and temperature and the test system of development offer worthy advantages, and that if the cinematographer will make intelligent use of the aid offered by modern materials and methods he can be sure of excellent results regardless of which system is used in the processing of his negative.

And it may be reasonably concluded that the gap between these different and much-discussed methods is in practice slowly but surely lessening.

B & H EXTENDS TO WEST PRESERVATIVE METHOD

THE Peerless-Vaporate film treatment which has been offered by the Bell and Howell film laboratory throughout the middle west for the last two years is now available also from the Hollywood laboratory of the company. A complete vaporating installation has been placed in the Bell and Howell Hollywood headquarters.

The interest in this process is all the greater in view of the recent report issued by the Research Council of the Academy of Motion Picture Arts and Sciences on "Release print film preservative tests." In the recommendations the committee of experts stated:

"These tests indicate that because of the fact a film preservative contributes to better projection as well as longer life, all release prints should be given some treatment before being placed in use." Earlier in the report the conditions for preservative treatment were described as follows:

Prevents scratches in new or green emulsion.

Thoroughly lubricates the emulsion so that it will not adhere to any part of the projector.

Impregnates the gelatine with a fixed chemical which will not be dissipated by the intense heat of the projection lamp, but which will take the place of the moisture that is withdrawn to thus prevent warping and buckling.

Retain the film's pliability indefinitely.

For the treatment of 35mm. film a special installation has been made by Bell and Howell with the Jackman Process Corporation of Burbank, Calif., which is developing new type of color film, the preservation of which is essential to continued enjoyment of the high initial quality of the release prints. Extensive new laboratory machinery of other types is also being developed for this new organization by Bell and Howell.

DYE TRANSFER ENTERS COMMERCIAL FIELD

By IRA B. HOKE

THIS month the Eastman Kodak Company announces the coming opening of its west coast plant for processing Kodachrome in the larger cut sizes.

Simultaneously the Color Process Laboratories, 837 North Fairfax avenue, Hollywood, headed by W. L. McLaine and Friend F. Baker, swings into full production on its process of color print enlargement from Kodachrome transparencies.

A pioneer in the transfer of dye images, Baker made his first experiments with the process in 1923 in partnership with Roy Hunter. His research at that time consisted in the transfer of three and four color separation prints, but as that was in the pre-Kodachrome era, a camera of the one-shot type, carrying four plates, was designed to furnish the negatives.

Eastman Kodak Company co-operated with the experimenters in 1924 by cutting a special base film made for color work, to sizes suitable for use as matrix stock. Then, for lack of interest on the part of commercial photographers in the production of separation negatives, Baker laid aside his plans until 35mm. Kodachrome entered the amateur field. He then continued his experiments and allied himself as partner with William L. McLaine.

Modern Process Selected

Picking one of the best known of the various processes, they developed and built special equipment for scientifically making dye transfers by the Eastman Kodak Company's "wash-off" method.

Later, like an answer to a prayer, came Kodak's Kodachrome in the larger professional cut film sizes. These larger films afforded the photographer a color film that not only could be exposed in a professional view camera offering the tremendous advantages of rising and falling front, horizontal and vertical swing back, double extension bed and reversible back, but also produced an image so clear and well defined that it was perfectly adapted for transfer to paper.

These larger sizes of Kodachrome, however, made it necessary for Color Process Laboratories to design, construct, and install much additional equipment, so that every step in the processing of prints could be handled with the utmost precision and control.

With this new equipment they are now making prints in 8 x 10, 11 x 14, 14 x 17, and 16 x 20 inch sizes, that are as nearly perfect reproductions of the originals as can be made by any known process.

Process No Secret

Baker realized from his early experiments in color transfer that consistently successful dye image prints could be made only under the most severe laboratory exactness, not within reach of the average commercial photographer.

With this past experience in mind the partners designed their laboratory so that they were able to keep every phase of the work under that precise control which is really the keynote of successful color transfer.

"There is no secret to our color trans-

fers," said Baker. "We merely use the Eastman 'wash-off' process, but the success of our enterprise lies in the rigid adherence we are able to make in our laboratory to the four essentials of perfect color prints. I refer to balance, temperature, humidity, and acidity."

Matrix Most Exacting

Probably the most exacting step of the process is that of exposing and developing the matrix forms, which are later to hold the dye like microscopic sponges, and release it upon the paper, which then becomes the finished print. Accurate densitometer readings of the densities of the three color-separation negatives has proved the only means of determining the finely balanced exposure required for the matrix film.

From the enlarger, this wash-off relief film goes through a developer and tanning-bleach process, whereby the silver is converted to silver chloride, and the gelatin hardened wherever there is metallic silver.

The gelatin, thus tanned, is insoluble in hot water, while the unaffected gelatin is washed off. The remaining silver chloride in the gelatin image adhering to the film base is then dissolved out and the gelatin prepared to receive the particular color of dye for which its silver image was filtered.

These steps are carried out under rigid temperature control, exact within one degree, yet varying from 65°F to 125°F, during the procedure.

Three matrices, made as above outlined, are soaked in their appropriate dye solutions, and then placed one at a time in contact with a gelatin-coated paper, previously mordanted so that the dye will leave the matrix and transfer to the gelatin of the paper. The three dyed images combined in the gelatin on the paper base form the color print. Additional prints are made by re-dyeing the matrices and repeating the transfer.

While, theoretically, dyes should be procurable that would give exact duplicate tones to paper from the Kodachrome transparency, they are not, at this stage of development, a reality.

Color Balance

This lack of color balance must be compensated for by a complicated system of matting, made in perfect coordination with the original transparency, and with regard to the acid reaction in the imbibition process. Thus greens may be accentuated or depressed; reds may be darkened or lightened.

Balance in color values between the components made by most one-shot cameras is far from ideal, because the laboratory operator cannot compare his results with the subject photographed, whereas with Kodachrome a balance system of making negatives can be maintained within very close limits, because in working with that medium the operator has at all times the transparency, or, to all practical purposes, the original scene in such form that it may be placed upon the work table for constant com-

(Continued on Page 327)

ANNOUNCING

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DOOLITTLE BUILDS REWIND AND FILM VIEWER

By WILLIAM STULL, A.S.C.

WHEN a successful cine club devotes a meeting to a contest for uncut short films the projection committee faces a first-class problem in keeping the show running smoothly. With fifteen 100-foot reels to be projected and rewind there are likely to be fifteen exasperating intervals for re-winding the film and then rethreading the projector.

Using two projectors minimizes these delays, but often at the price of undesirable noise and disturbing light flashes while one projector rewinds as the other projects.

Therefore when the June meeting of the Los Angeles Cinema Club (16mm.) was devoted to a contest of this nature and was run off with incredible smoothness on but a single projector, it was obvious that some one had done something new and different to solve the rewinding problem.

The answer was that Fred Doolittle had brought his rewind to the meeting. Even when, as in some instances, a contestant had mounted three or four 100-foot picturettes on one 400-foot reel, Doolittle would have the film completely rewound before the projectionist, threading up for the next reel, was ready to put on the take-up reel!

Now the only commercially available rewinds that will equal this speed are

Fred Doolittle's editing outfit, with motorized rewind (left), illuminated inspection glass (center) and stroboscopic viewer (right).

Close view of Doolittle's stroboscopic viewer with magnifying lens in place.

the big electrically driven ones used in theatres, which will rewind a 2000-foot reel of 35mm. film in a few minutes. So it was not surprising to find that Doolittle's rewind also was motorized. But his was a home-built job made at a cash cost of about a dollar and a quarter!

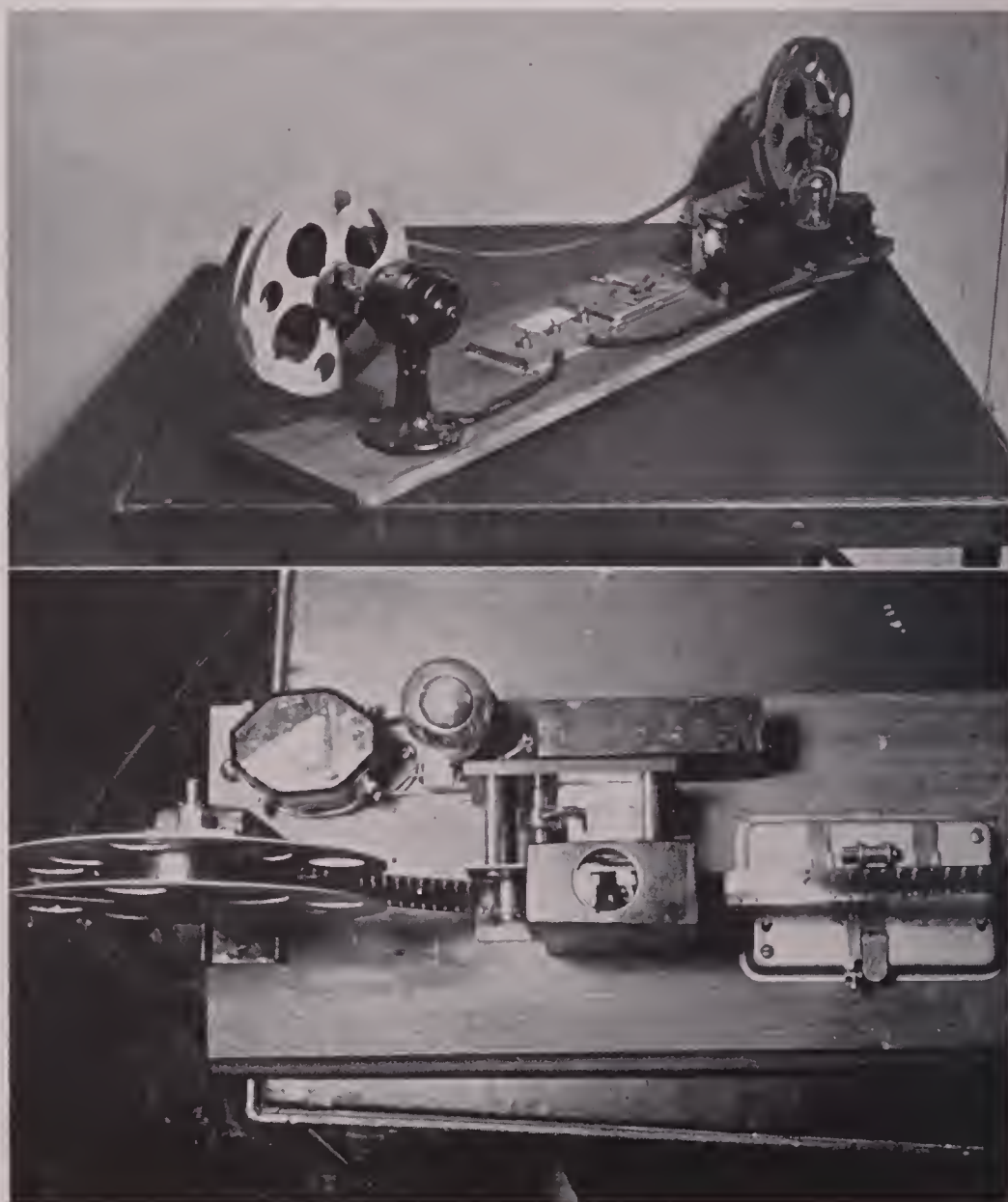
Uses Electric Fan Motor

The heart of Doolittle's gadget is a little reversible electric motor taken from a cheap electric fan—the type you can buy for a dollar in any cut-rate drug store.

The fan blades and their guard are discarded, leaving only the motor and its supporting pedestal, which, by the way, is just the right height to accommodate a 400-foot 16mm. reel.

A small pulley is fitted to the motor shaft in place of the fan blades. You can buy a stock pulley for only a few cents or, if you are, like Fred Doolittle, a gadgeteer who finds more fun in making things than in buying them ready-made, you can turn one on your lathe from any handy bit of scrap metal you have about.

A simple metal bracket is next provided, to hold a second, larger pulley and the rewind spindle. The drive can



be effected by any convenient bit of belting; owners of belt-driven projectors will find it easy to salvage discarded projector belts for this purpose. But Doolittle simply slipped a couple of rubber bands over his pulleys and found them quite satisfactory.

One End Squared

It is possible, he explains, to eliminate this reduction-drive with its pulleys and belting and to fit the rewind spindle directly to the motor shaft: but the reduction drive gives more power for handling a full 400-foot reel of film, and is more satisfactory.

The rewind spindle and the "dummy" spindle upon which the full reel is held were turned from a pair of $\frac{3}{8}$ -inch bolts. One end was of course squared, to fit the square opening on one side of the reel, while the rest was turned off round.

If you want to be professional about it you can fit a spring or a spring-tensioned ball in the spindle to hold the reel to the shaft; but if, as Fred was, you are interested first of all in getting your gadget into operation, you can, as he did, simply drill a hole through your spindle and slip in a cotterpin to keep the reel where it belongs.

If you already have a set of hand

rewinds you can use one of them to hold the full reel which is being rewound. Otherwise, you can do as Doolittle did, and simply make a "dummy"—a free-running shaft on a simple supporting bracket.

Doolittle's "dummy" bracket is simply a bit of brasswork salvaged from the scrap heap, cut to the right size and drilled to receive the reel-spindle at one end and the screws which hold it to the baseboard at the lower end.

Inspection Light

Beside the motor rewind on Doolittle's rewind board is a flat metal housing which at first sight looks like an additional splicer. Actually it houses a very convenient inspection light—again taking a leaf from professional practice. Doolittle simply cut a suitable opening in the baseboard and mounted in it a small lamp-bulb, such as those used to illuminate radio dials.

A curved sheet of tin beneath the bulb serves the double purpose of a reflector and a protection to the bulb. Another tin housing above holds an opal glass diffusing window. At the rear of the same housing are three switches, one of which turns the in-

spection light on and off, the second does the same for the rewind motor, while the third reverses the motor.

Stroboscope Film Viewer

A more recent addition to the Doolittle editing board is a unique stroboscopic film viewer, which affords a magnified image of the film, apparently in motion, and which works either forward or backward. This example of Doolittle's gadgeteering, too, was largely salvaged from assorted scrap-heaps.

The design, however, does credit to Doolittle's professional standing as an electrical engineer for the Southern California Edison Company.

The basic principle of the stroboscope viewer is relatively simple. The film travels over a sprocket, which incidentally is the one purchased unit in Doolittle's device. To the shaft of this sprocket is attached a commutator which turns on a neon light beneath the film for an extremely brief interval as each frame passes under the magnifying viewing lens.

Persistence of vision blends the image received from this one quick flash into that received from the next frame, so that the picture appears to be in motion. Since the illuminating light is intermittent, no shutter or intermittent movement is necessary.

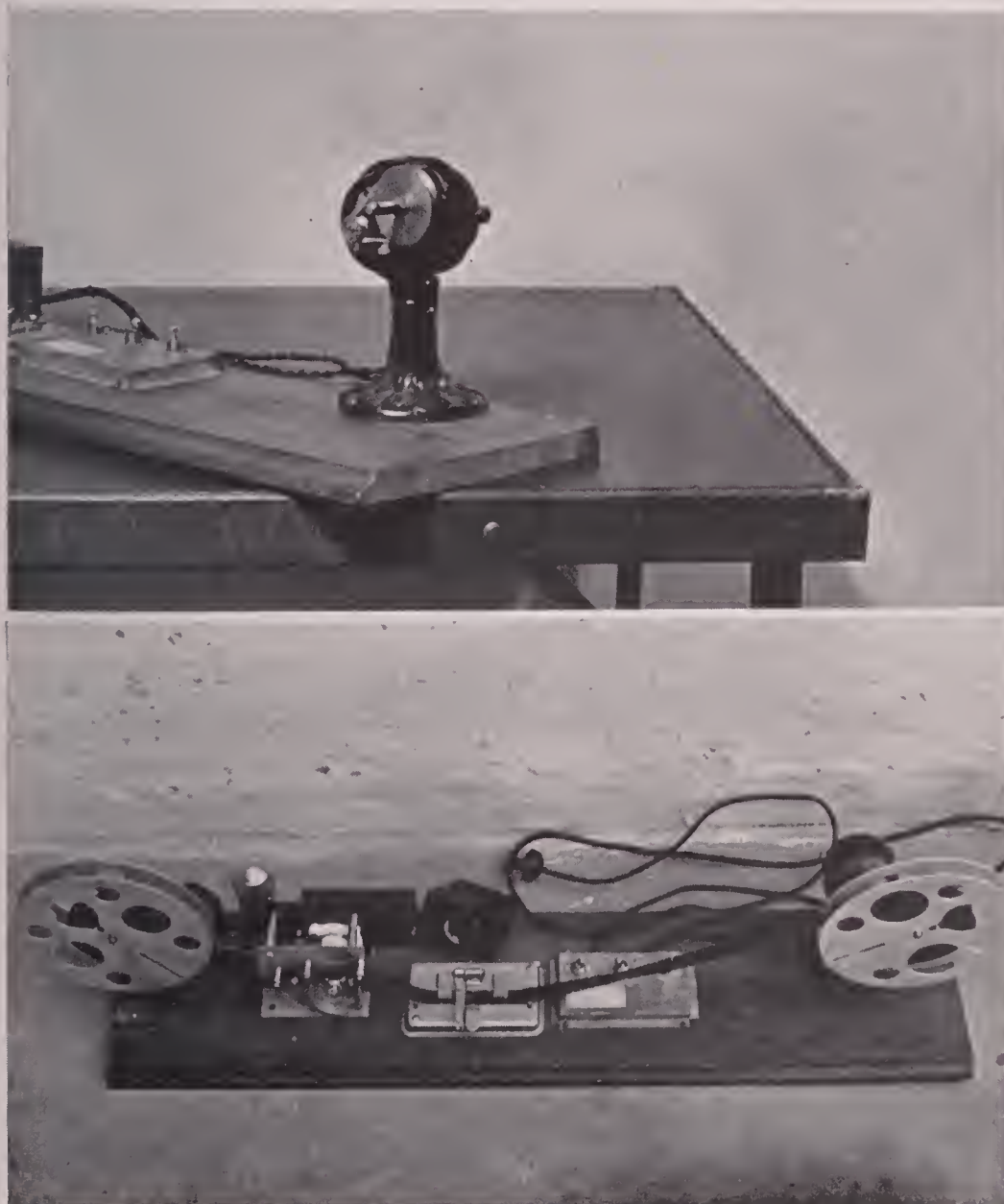
The strictly mechanical part of the viewer is correspondingly simple. A metal plate holds the one sprocket and the necessary idling rollers which hold the film in contact with the sprocket and also hold the section being viewed in the proper plane between the neon light and the magnifying lens.

Avoids Scratches

Due to the principle involved, no aperture plate or gate is necessary; and since the rollers, as well as the sprocket, are relieved, touching the film only along the perforations, there is nothing in the assembly to touch the picture area of the film and possibly cause scratches.

But if this mechanical part of the viewer is simple the electrical portion is more involved. The commutator, for instance, directly reverses conventional practice. In motors, generators and the like, a commutator consists of a shaft or drum bearing the required number of electrical contacts, insulated from each other by a suitable insulating material, such as hard rubber or bakelite.

In the ordinary commutator, the contacts are broad, and the insulating strips very narrow. In the Doolittle viewer, the opposite has to apply to give the required ultra-short flash—so brief the film can hardly move during the interval the light is on—the contact must be very narrow, while the insulating section is correspondingly broad, as the light must stay out until the next frame has



The motorized rewind, made from a dollar electric fan.

Fred Doolittle's editing assembly.

got into position. The brush which makes the contact is a simple bit of bronze spring-wire.

Uses Rectifier Tube

While a neon lamp will operate on alternating current, direct current is necessary for this use, for otherwise the lamp, which goes completely out with each alternation of the current (60 cycles in most localities) might very easily be dark just at the time its glow should be illuminating the film. Therefore Doolittle had to provide a source of direct current for his viewing lamp.

This was done by coupling a rectifier tube to a condenser. The rectifier tube

supplies direct current to charge the condenser. The condenser, in turn, builds up a charge during the between-frame intervals that the circuit is open, and when the circuit closes gives the lamp a brighter flash than would otherwise be possible.

The complete circuit begins with a suitable transformer, salvaged from an old radio, which brings the regular 110-volt current up to the higher voltage necessary for operating rectifier tube. Next comes the rectifier tube.

Next, the condenser or, in Doolittle's case, a salvaged two microfarad telephone condenser, which serves the same

purpose. This is connected, through the commutator, to the glow-lamp.

The magnifying viewing lens came from a dimestore magnifying-glass, and is mounted in a boxlike wooden housing which slips into place over the viewer when necessary, and extends downward to exclude room light.

The neon glow-lamp Doolittle used has two long, semi-cylindrical electrodes almost exactly as long as the width of the 16mm. film they are to illuminate.

The base of this lamp originally contained a resistance which in this case was unnecessary, as suitable resistance was already provided in the transformer used. Therefore Doolittle performed an operation on the base of the tube, opening it up, shorting out this resistance, and thereafter reclosing the base with plaster-of-paris.

This enables the condenser to discharge more rapidly than it otherwise would, giving a quicker light flash and minimizing the effect of the film's movement.

As has been said, with the exception of the one sprocket which was bought commercially at a cost of fifty cents, the viewer was made from discarded radio parts and from spare bits of metal such as every home machinist has in abundance around his home workshop.

But even using new parts throughout, Doolittle says, such a viewer could be assembled for a cost only slightly over five dollars. With the exception of the characteristically red-orange glow of the neon lamp, which is not too satisfactory for viewing color-films (and which could be corrected by using one of the newer types of glow-lamps which give a whiter light) the device works as well as any commercially made viewer, and with far less complication and risk of damaging the film.

But, as Gadgeteer Doolittle says, the fun of planning and making such a device exceeds even the satisfaction of using it, once it is made!

New British RCA Users

Three important motion picture producers in the British Isles, including a Government department, the Postmaster General, have been signed as sound film recording licensees by RCA Photophone Ltd., in London. The new contracts bring to fourteen the number of Photophone licensees operating in Great Britain.

Lafayette Camera Catalog

A post-card request will bring to readers a forty-page catalog of still and movie cameras, photographic equipment and accessories which has just been brought out by Lafayette Camera Corporation, 100 Sixth avenue, New York.

Amprosound Model UB, now in hands of dealers, attracting attention because of its performance and ease and quietness of operation.

Amprosound Model UB Now in Hands of Ampro Dealers

For extreme quietness in operation Ampro's Sound-on-Film Model U has been inclosed in a sound-proof blimp case. The prices are to consumers: Ampro Model UB, \$365; Ampro Model U, \$345 (without blimp case).

With an amplifier output of 15 watts, undistorted, a 12-inch permanent magnet field speaker and 750 watt lamp projection, the UB is closed in a sound-proof blimp case.

Embodied in the U and UB are several innovations, such as a speaker-hiss eliminator which enables the operator to obtain full volume without hiss, even at low voltage; and an amplifier signal light indicates when amplifier is on and also designates location of volume and tone control knobs on the amplifier when rooms are darkened.

An active response to this sound-proofed Ampro Model UB is being received from dealers. Complete specifications and features will be sent upon request to The Ampro Corporation, 2839 North Western Avenue, Chicago.



Marshall and Clarke Get Air Thrill



Wreck in Alaska of Jimmy Mattern's plane from which Charles Marshall survived—for one reason because he had the prevision to pull a couple of cushions over his head when he saw the crack-up coming.

CHARLES A. MARSHALL, A.S.C., had a bad quarter of an hour on the morning of June 2. He had more than that—at least five minutes more. And it was a twenty minutes when seconds are divided into fractions, a matter of detail with which photographers are exceedingly well acquainted. In this instance, however, it was not a mere matter of making an exposure.

It was a battle for life—for two lives—that of Pilot Frank Clarke, who made a desperate fight successfully to return to the ground a low-flying and crippled ship, and Marshall's.

The plane was a Stearman camera ship. Clarke had flown it from Union Airport to a temporary field near Point Mugu, forty miles north of Los Angeles, without any intimation everything was not right. In taking off the ship had not attained an elevation of more than fifty feet when Clarke pulled back on the control stick and found it loose in his hands.

The stick is designed to fit into a socket that projects four inches above the floor of the cockpit and to be bolted into it. The bolt was missing. The absence of elevation constituted the greater peril. Clarke dropped to the floor of the cockpit and grabbed the control cables and thereby kept the ship level.

By reason of the weight of the camera in the rear cockpit the craft was slightly tail-heavy. It began to bob. After he had attained a little altitude by making slow circles Clarke throttled down the speed of the motor.

Bangs on Windshield

By this time Marshall had noticed something was wrong and was puzzled by Clarke's being on the floor. He banged on the windshield for information. As Clarke could not get up he raised the control stick with one hand, holding the control cables with the other, and yelled for him to unscrew the handle of the

camera friction head. That seemed to Clarke like the only thing handy for an emergency control stick.

"Marshall, not in the least excited or frightened," Clarke afterward related, "unscrewed the handle and passed it to me over the windshield with a screw-driver and a pair of pliers.

"I managed to slip the camera handle down into the control stick slot, and by losing altitude very slowly got near the field at about the right height for landing. I then cut the motor and glided down. It's the closest shave I've had in twenty-one years of flying."

Marshall estimates that at no time for twenty minutes did the ship reach an elevation in excess of 200 feet. Quick repairs were effected, and in less than an hour the two men again were in the air, where they secured for Columbia's "Coast Guard" the shots that had been planned.

The cinematographer is strong in his praise for the flying ability of Frank Clarke. "I put him second to no one with whom I have been in contact," he said.

And Marshall has had a lot of air experience himself. During the war as a member of the Signal Corps and Air Corps it fell to him to accumulate two thousand hours of flying. Following the war for several years he was employed in a laboratory. For the past ten years he has specialized in motion picture air work.

Marshall's last previous experience with adventure was lacking but twenty days of a year—in M-G-M's "Too Hot to Handle." It was on June 22 of 1938 when his ship, heavily loaded—it was carrying four cameras with accompanying batteries—failed to come to a stop



Frank Clarke, left, pilot, and Charles A. Marshall, A.S.C., who had narrow escape when control stick came loose in former's hand when ship was but fifty feet off ground. Photo by Rod Tolmie.

PRICELESS QUALITIES

NEW film emulsions are indispensable to motion picture progress, but only proved reliability and uniformity make them practicable. Eastman *Plus-X*, *Super-XX*, and *Background-X* have those priceless qualities—hence the everyday use they are enjoying throughout the industry. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X

for general studio use

SUPER-XX

for all difficult shots

BACKGROUND-X

for backgrounds and general exterior work



within the accustomed distance and slid into a drainage ditch at the Long Beach airport. It still was traveling at a fifty-mile clip when it turned on its back and stopped with complete suddenness.

Two of the quartet of cameras were on the landing gear and two in the rear cockpit. The flying cameraman was a bit skinned up and bruised, but not seriously injured.

Alaskan Crash

His escape from injury was even more notable a year before that. He was flying north with Jimmy Mattern in 1937 in a Ford tri-motored twelve-passenger ship engaged in a search for the Russian arctic flyers. The ship, heavily loaded, had flown from Glendale, Calif., with Fairbanks, Alaska, as its immediate destination.

Ten miles south of that city the ship had been forced down by a heavy storm, with visibility minus. Marshall with unaccountable prevision had secured in Glendale two cushions, on which at the time of the descent he was sitting. As he saw the nature of the ground on which the plane was bound to land he reached under him as he raised up in his heavily bolted chair and withdrew the two cushions. Without loss of time he placed the two of them over his head and shoulders.

As the ship, traveling at a sixty-mile speed, came in contact with the tundra or swamp land, it plowed deeply into the soft ground and turned on its back. An accompanying picture shows the damage that resulted. Marshall's chair was torn away from the heavy bolts that fastened it to the floor. One of the cushions over his head and shoulders was cut in two.

A fifty-gallon oil reservoir near him spilled its contents over him. But, most fortunately, a big gas tank just to the rear of where he had been seated in the cockpit was empty. Had it been filled as when it left Glendale its impact would have destroyed him beyond any doubt. As it is, effects of the bump he got on his head remain with him yet. In spite of the treatment he underwent for a long period after the crash he experiences an occasional kink in his neck.

Two views of same plane after it had come to a stop in ditch in summer of 1938. Marshall was a passenger with four cameras, one pair on landing gear and other pair in rear cockpit. He was bruised but not seriously hurt.

The pilot, copilot and Marshall had been on the ground but forty-five minutes following the crash when they were sighted by Joe Crosson, famed Alaskan pilot, who when the ship had failed to arrive as expected immediately set out in spite of the storm to find the ship.

He quickly spotted the crash. Flying low and finding the three on their feet he conveyed to them by signals and shouting for them to walk to the Tanana River, distant three miles. Then Crosson returned to Fairbanks and secured a pontoon ship. He flew back and waited for the trio to emerge on the bank of the Tanana. Fairbanks was the only habited spot in many miles. In a few

Marshall in same plane as that which gave him and his companion the thrill of their lives.



minutes the three men were comfortably housed.

The making of motion pictures from the air affords a thrill to the photographer as well as to the screen spectator.

Philadelphia Cinema Club

A riot of color would really be a good lead for the story of the June Meeting of the Philadelphia Cinema Club, held at the Hotel Adelphia June 13.

Our own Francis Hirst started the ball rolling with his talk on "Color Aesthetics," demonstrating the same by small colored plaques, indicating the various colors of the spectrum, as well as with a rotating disk showing the primary colors. He followed this very fine talk with three 8mm. films in color, taken by himself, with the help and cooperation of Mrs. Hirst.

These films, "Golden Trail," "Nova Scotia" and "Peggy's Cove," were enjoyed by everybody. In "Golden Trails" Mr. Hirst again demonstrated his skillful handiwork in utilizing color design for title work.

Not to be outdone, Arthur Hurst showed "A Pictorial" with 800 feet of nature's color, including flowers, trees, birds and landscapes, and showed them in their changing garments of the seasons. Included in the "Pictorial" was his famous single frame shot of a water color painting being made.

In line with the ideas outlined in previous meetings, Carl Finger reshown his 16mm. Kodachrome "Birthday Party," indicating what can be done after constructive criticism and re-editing of films of this kind.

The films on the New York World's Fair have started to come in, led off by Dr. Bowersox, who showed his trip in 8mm. with a running comment by R. H. Hoot. A 16mm. color film of the fair taken in part by Mr. Hoot and in part by Benjamin Kline indicated the very many unusual angles at which scenes can be photographed, either day or night, in this "fairland" for photographers.

Seven new members were inducted into the club, so that when we reassemble for our opening meeting in the Fall we shall do so with a full membership list.

B. N. LEVENE,
Chairman Publications Committee.

MODERN PUTS IN OPTICAL 16MM. TO 8MM. PRINTER

JUST completed and installed for Modern Movies, Inc., 6018 Fountain av., Hollywood, by Theodore Bell of Van Nuys, Calif., is the optical 16mm. printer shown herewith. For the 8mm. side of the printer an Eastman Model A 16mm. camera was converted to 8mm. by replacement of the pulldown cam and changing the takeup gearing. An 8mm. aperture was made to replace the former 16mm. aperture.

The Eastman model was selected because of its serviceability, steadiness and aptitude for the job. The lens employed is an Eastman f3.5 25mm. and is mounted on an adjustable plate so as to allow 3/16 of an inch movement either vertical or horizontal. This provides for perfect alignment and for reframing.



16mm. to 8mm. optical printer installed by Modern Movies of Hollywood.

The 16mm. side is an Eastman 16mm. Model A. The projector movement is mounted to allow 5/8 inch movement forward or backward. The aperture was specially made and is framable. Mounting of both movements was made on a 20-pound castiron fully seasoned block to insure rigidity. The camera is mounted on half-inch steel legs, longitudinally threaded, and the projector is flush fitted to the base with four slotted holes. A direct driveshaft connects the flywheel of the 16mm. to 8mm. sides.

The lamphouse is a stock affair and condensing lenses are specially fitted. The lamp is 6 volt, 25 candlepower. A special transformer and rheostat supply and regulate the power. Transformer and rheostat are built into a separate remote

control unit, which may be changed to other printers, thus assuring standard results.

Power is furnished by a 1/25 hp. motor, which is rubber mounted to eliminate vibration. The speed of printer is 8 frames a second. Four hundred foot magazines have yet to be installed.

Los Angeles Cinema Club

The June meeting of the Los Angeles Cinema Club was a dinner meeting, at which a 100-foot reel uncut film contest was held. About 55 members and guests attended.

A new club function was announced. Each month a stag technical meeting will be held the third Tuesday night at the home of some member. Interesting gadgets and films will be brought and shown to the group.

A different method of judging contests was tried and found very satisfactory. Guest George Blaisdell and three members were appointed as judges to select the three best films of the 15 entered in the uncut reel contest. These three films were then rerun before the audience and the members voted by bal-

lot for their choice of the best film. The one receiving the most votes, a Kodachrome reel entered by Guy Nelli, won the coveted first prize, a splendid book on photography donated by Winter's Camera Shoppe. Awarding of second highest number of votes carried the second prize to Mr. Levi, and similarly third prize was won by Earle Memory.

Members were unanimous in considering the 100-foot reel uncut film contest a splendid type of contest. The various reels shown gave a good cross section of the efforts of the members, and the excellence of the general photography of those entering films made the task of the judges most difficult.

ED. J. PYLE, JR., Secretary.

Lafayette Filters

A new filter mount and a wide variety of optical glass filters to fit have been announced by the Lafayette Camera Corporation, 100 Sixth Avenue, New York. The mounts are available in 12 sizes to fit all lens diameters from 23 to 42 mm. The filters available for each size provide all the more popular varieties.

The mounts consist of a barrel and a clamping ring which screws over its outer end to hold the filter glass securely in position. The inner end of the barrel slips over the lens mount and has spring fingers to insure a good grip.

KODAK PUTS ON MARKET ITS SUPERMATIC SHUTTER

ANNOUNCEMENT comes from Rochester of the new Kodak Supermatic Shutter No. 1, an important new-comer in the field of fine precision built shutters.

Made in Kodak's precision workshops in Rochester, this new shutter is an unexcelled between-the-lens shutter in mechanical design and performance, accuracy, sturdiness, efficiency and calibration.

Special lubricants developed by Kodak research enable the Kodak Supermatic Shutter to operate satisfactorily and consistently over a greater summer and winter temperature range than any other between the lens shutter.

The Kodak Supermatic Shutter has a speed range of 1 to 1/400 second, and includes a delayed action or self timing setting at all shutter speeds including 1/400 of a second, with a pause of about 12 to 15 seconds' duration.

Shutter speeds which require the use of a tripod—time, bulb, 1, 1/2, 1/5, 1/10 second—are marked in red to warn the user of the necessity for a rigid support. The faster exposure speeds—1/25, 1/50, 1/100, 1/200, 1/400 second—are marked in black.

Speed setting is accomplished by turn-

ing a ring around the periphery of the shutter. The ring bears two index points, one for instantaneous speeds, and one for the longer exposure speeds. The shutter setting lever is situated on the top of the shutter and the release lever is located on the left side.

A third lever, on the right, which cannot be set until the shutter has been cocked, serves to set the delayed-action mechanism. A socket for a cable release is provided. The delayed-action device, if set, is put into motion when the release lever is released in the usual way.

Extremely thin spring blades, held to fine assembly tolerance, close tightly over the aperture in order to obviate light leakage. Their lightness makes possible a high speed of 1/400 second.

Other speeds down to one second are timed with a retard, consisting of a precision gear train and pallet escapement. The whole shutter mechanism is built and assembled with the accuracy of the finest watch. The new swirl finish is another feature of the shutter.

This new shutter is at present available only on the Kodak Special Six-20. Other Kodaks will be fitted with this shutter at a later date.

BUILDING MOVIES AROUND MUSIC

By ORMAL I. SPRUNGMAN

All flash photos and 16mm frame enlargements by the writer.



This lip action shot was clicked during the actual filming of the Mill Stream sequence. Left to right: Edward Johnson, who conceived the idea; Dr. Leonard Martin, chief sound man at club's recent Movie Party; and Monty Paynter, non-member. Ray Eppel, extreme right, soloed on piano.

I BELIEVE it was Robert Bruce, Hollywood's photographic artist, who first advised amateurs never to photograph without a reason. "The better the reason," he pointed out, "the better the picture."

Yet these timely words fall on the deaf ears of cameramen whose cine life is one continual round of garbled shooting, and who neither find the time nor the inclination to unravel the perplexities of continuity and all its complications.

But there is a form of purposeful filming which is neither brain-tiring nor

soul-consuming. Unique in itself, this new practice of building movies around music offers heretofore undreamed of possibilities for every type of cameraman, beginner or well-advanced.

Movie stories are as varied as the recordings themselves, and filming may be as technically perfect or as downright simple as the moviemaker desires.

Briefly, a likable recording is selected, its playing time noted in seconds. Then the moviemaker sets out to shoot movies to fit the mood and tempo of the tune itself. Final editing brings the footage down to the exact playing time of

the recording, and the result is a sound-synchronized movie.

This is exactly the opposite of the usual procedure of filming a movie first and then finding suitable music and sound effects to fit the scenes.

Down to Cases

Let's get down to actual cases.

Quite some time ago the late Joyce Kilmer wrote a poem called "Trees." It was a pretty sort of thing, so beautiful that it was set to music. A perusal of the current Victor Record catalog reveals at least six variations in recordings.

You can buy the tree disk featuring the voice of Ernestine Schumann-Heink, or Nelson Eddy, or John Charles Thomas. Or you may have the piece played by Shilkret's Victor Orchestra or Bunny Berigan's swing music. You can even buy an all-organ recording of "Trees" by Don George. Everything depends on individual tastes.

Since organ melodies seem always tops for accompanying color stuff, suppose you pick the organ number for your next Kodachrome feature. Your first step is to load your camera with color film, choose a day when the sky is deep blue and fluffy with clouds, and do your tree filming.

Take long shots through drooping branches and frame vertical views through tree tops against a fast-moving



The Opera House stage of the "Covered Wagon" in Minneapolis furnished a rustic background for filming the movie recording, "Down by the Old Mill Stream," recent production of the local cine club. Silhouetted in foreground with camera is Arthur Schwartz, one of the organizers of the club.

cloud. To accentuate such movement shoot at 8 frames per second instead of the usual 16, closing down the lens aperture one stop to compensate for the slower speed.

Watch for human interest sidelights, such as a squirrel scampering up a trunk, a bird feeding its nested young, or an odd-looking insect slumbering amid tooth-chawed leaves.

Here's Real Job

Since the music is of the leisurely, lump-in-throat sort, scene length should compare closely with the tempo. Faster music might demand much shorter scenes, but, for the tree tune, shoot just a bit longer than usual, dissolving between scenes, if your outfit will permit trick effects.

Back home on your editing table, a real job confronts you. Your problem is to boil down your footage to exact record length, perhaps changing the continuity here and there to fit the mood.

By actual stop-watch test, you find that the organ number has a playing time of three minutes. Bunny Berigan's swing version runs 3 minutes and 15 seconds. One hundred feet of 16mm. film runs through the projector at 16 frame speed in approximately four minutes.

By converting running time into footage, you discover that the picture story can be covered with about 75 feet of film. The proper synchronization is obtained by actually measuring the film, foot by foot, and running the projector at a constant speed.

Trees are not the only nature subjects which lend themselves to musical treatment. The Chicago Symphony Orchestra has made a Victor Red Seal recording of "To a Wild Rose," on the reverse side of which is "To a Water Lily."

The wild rose opus runs 2 minutes 10 seconds, while the water lily piece has a playing time of 2 minutes 40 seconds.

The music is tearfully soft and beautiful, and all one has to do is invade the city's rose garden or backyard lily

pond to pick up the necessary color closeups. Other appropriate disks can be found in the catalogs of the various phonograph record companies.

Shooting Tough One

Suppose you have played with straight musical background for some time, and now you want to try something a bit more difficult. Then pick a record containing a vocal refrain, and shoot and edit in an attempt to synchronize lip movement.

This is done by photographing all the background scenes first, and then setting up to shoot an actor, appropriately garbed, "mouthing" the recording being played simultaneously while filming.

After a little practice, it is remarkable how accurately lip synchronization can be obtained.

Of course, it isn't always essential to shoot film especially for the recording at hand. Sometimes surplus footage from reels previously filmed can be re-edited to fit the music.

For instance, take the Victor recording of that old-time favorite, "Memories," by The Southerners. The record plays 3 minutes 10 seconds. Further analyzed, the record reveals that an instrumental introduction runs 1 minute 30 seconds, a vocal chorus 47 seconds, and an instrumental close just 53 seconds.

Left, John Leffler, 8mm. movie fan and member of the Minneapolis Cine Club, is shown with his homemade method of synchronizing recordings with films. Projector motor drives turntable by means of a flexible shaft. Same cable also attaches to camera when filming synchro-movies.

Right, Program Chairman Harold Bronson (right) films closeup of Club Treasurer Paul Frantzich strumming guitar for Mill Stream feature. Program Committeeman Carroll Davidson thumps drums in background. Actors "faked" lip and finger movements for camera while actual recording was being played.

Now dig up your old cine memories—pickle-and-ant picnics of days past, worm angling beside a trotting brook, camping scenes in the great north woods. Pick only the highlights and the best exposed shots. Look for a continuity thread on which you can hang these scenes.

For instance, you might fade in on an over-the-shoulder shot of someone thumbing a snapshot album, swinging in for a closeup of a familiar scene, fading out and in on the actual movie scene, and then returning later to the album. You can work this stunt at least twice before the vocal comes in.

Watch Step

For the vocal, please pay close attention. Make sure that the camera motor spring is fully wound, and that the turntable used on location spins at 78 r. p. m. Any variation in either motor will throw the whole piece off.

After the vocal has been rehearsed several times, set up the camera, check distance and exposure carefully, and film the sequence with the characters going through the mouth movements as the recording is played. This vocal sequence is then cut into the regular footage, the final reel brushed up a bit, and there is your home-made talkie.

If you want to vary your camera angles and distances on any one vocal, first shoot the whole sequence through for timing, and then repeat from different angles. You can cut out any number of frames from the original sequence and still retain synchronization provided that the angle shots cut into the first film contain an identical number of frames.

It was early one morning, over his breakfast coffee, that Edward Johnson of the Minneapolis Cine Club got an idea for a synchro-talkie feature that proved to be one of the sensations of the Club's Second Annual Movie Party screening, reviewed in the June issue.

Invading many of the local record shops, Johnson managed to uncover an inexpensive Decca recording, "Down by





Left, such closeups as this 16mm. color frame enlargement help to relieve monotony of longer shots, enlivening tempo.

the piano key thumping, one of the vocalists removed a handkerchief from his pocket and mopped the brow of the perspiring, finger-strumming pianist.

Enters Real Wag

Considerable cutting was necessary, adding a short sequence here and lop-

Right, this action closeup of a strumming guitar was enlarged from a 16mm. color frame from "Down by the Old Mill Stream."

the Old Mill Stream," featuring the Three Peppers—piano, guitar and drums—and a vocal trio. Since each musical instrument was featured in solo, the piece offered opportunities for closeup camera work.

Breaking It Up

First, the record was played and re-played until the entire number was perfectly timed. In short, the piece ran a little under 2½ minutes, and was broken up as follows:

	Seconds
Piano introduction.....	8
Vocal trio.....	31
Guitar solo.....	31
Piano solo.....	35
Vocal trio.....	42

Total seconds.....147

Second step was to line up a camera, a string of lights, a suitable location, and a batch of actors—three for the vocal and three for the band. Previous singing experience was unnecessary, although musical ability in handling instruments was found to be rather advantageous. Even at that, the drummer hadn't ever thumped a yawning hide until a minute before the actual shooting!

The log-cabinish "Covered Wagon," unique downtown Minneapolis night spot, was chosen for the picture setting because its midget stage and rustic appearance lent itself well to color filming.

With lights and camera in readiness, the recording was started. A long shot of the curtained stage was taken during the piano interlude, near the close of which the curtain rolls up and the vocal trio and band swings into action with ample gesturing.

On the second chorus, the camera was moved up for a medium shot, and the guitar and piano closeups shown in turn. To add a humorous touch during

Main title of synchro-movie which proved sensation of Minneapolis Cine Club's Second Annual Movie Party. Enlarged from 16mm. frame. Title by Park Cine Laboratory.

"DOWN BY THE
OLD MILL STREAM"

Old Time Favorite
Produced in Swing

From an idea conceived
by Edward Johnson

Photography . . . Arthur Schwartz

Direction . . . Harold Bronson
Ralph Sprungman

Editing Ormal Sprungman

Lighting General Electric

The Orchestra:

Piano Ray Eppel

Guitar Paul Frantzich

Drums Carroll Davidson

Vocal trio:

Edward Johnson

Dr. Leonard Martin

Monty Paynter

Note: Any resemblance of characters herein pictured to others, living or dead, is unfortunate as well as coincidental.

ping off a few frames there, before the film was ready for its premiere projection. A scroll title was used to introduce the featurette, including credit lines to band members, vocalists, and others, winding up with this gem:

Any resemblance of characters herein pictured to others, living or dead, is unfortunate as well as coincidental.

All of the previously mentioned synchro-talkies were made and projected without any connection whatsoever between turntable, camera or projector. Synchronization was maintained simply by altering the projector speed during screening.

It remained, however, for one John Leffler, 8mm. enthusiasts and member of the Minneapolis Cine Club, to rig up a synchro-system having all the advantages of sound-on-film.

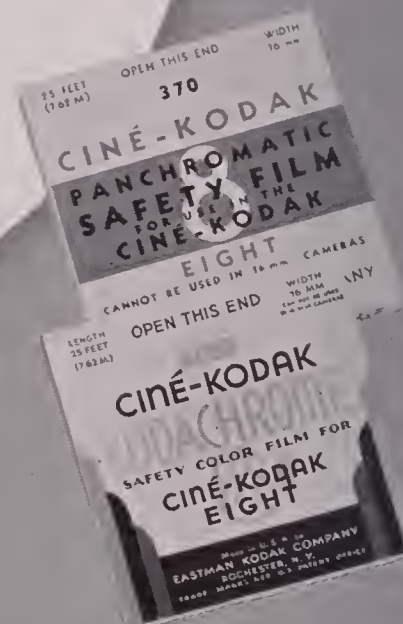
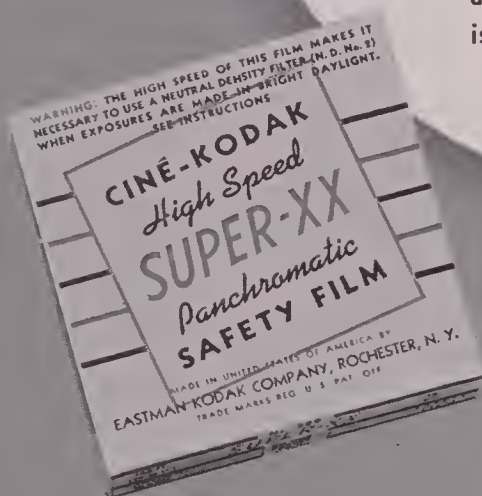
Leffler, who also has done considerable experimenting by recording a needle-scratched sound track on acetate film, spent an idle dollar one day for a turntable salvaged from a \$450 Sonora phonograph he discovered in a second-hand store.

Rebuilding the turntable into a portable carrying case, he connected one end of a 30-inch auto radio cable (the flexible shaft type used for tuning) to the turntable motor, with the other end affixed to the take-up pulley of his Eastman Model 50 8mm. projector. The turntable itself was driven by the projector motor.

Keep Spring Tight

When building movies around voice recordings, Leffler uses the same cable, attaching the projector end to the camera, which is housed in a specially constructed container. The camera motor spring is kept at full tension during actual filming by repeated windings, and the entire record is filmed

For Film-Wise MOVIE MAKERS



If a scene is worth filming at all, it merits the best film you can get. That is exactly why Ciné-Kodak Film is the accepted standard among film-wise movie makers. It is always worthy of the job it is asked to do, always fully responsive to the skill of the camera user.

To meet the requirements of varying movie-making opportunities, Ciné-Kodak Film is made in several emulsions, each with its specific field of usefulness. Know these films, understand what they can do for you—and real achievement in home movies is within your grasp.

UPPER LEFT: 16 mm. Super-X adds brilliance and fine grain to ample speed.

LEFT: 16 mm. Super-XX, for use when the most sensitive film is essential to success.

UPPER RIGHT: 16 mm. Kodachrome, of course, affords the finest of color movies.

RIGHT: 8 mm. movie makers rely on standard "Pan" for general filming, indoors and out, and on Kodachrome for movies in full color.

GOING TO THE NEW YORK WORLD'S FAIR? Be sure to take your Ciné-Kodak. Stop at the Kodak Building, where Eastman experts will advise you what to take and how to take it. And there you'll see the unique and gorgeous Cavalcade of Color—the Greatest Photographic Show on Earth. Nothing like it has ever been seen before. Don't miss it.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Methodical Preparations Pay Large Dividends



Methodical preparations pay dividends.

By JAMES A. SHERLOCK
Sydney, Australia

SECOND ARTICLE

Copy of report presented to customers by Herschells Photography Limited, Agfa 16mm. Processing Service of Melbourne, Australia:

MISTAKE	EFFECT	REMEDY
..... of your film is under-exposed.	Dark image on screen.	Open up lens to give more exposure.
..... of your film is over-exposed.	Light image on screen.	Close lens to give less exposure.
..... Scenes are too short.	A flash and picture is over.	Shots should not take less than 5 seconds. Average 10 seconds.
..... Scenes show too much movement.	Unsteady and blurred pictures.	Hold camera steady. Move camera very slowly when panning.
..... of your film shows scratches.	Vertical lines on screen.	Clean the gate and guide rollers.
..... of your film is not sharp.	Picture blurred.	Focus lens carefully according to scale.
..... Scenes show halation.	Flare from light portions of subject.	Exposing against light is unwise, but, if you must, use lens shade.

WITH the camera loaded the first step is choosing a subject to shoot. Most movie makers purchase a camera for either of two reasons, to make a permanent record of a holiday or to photograph the family. A large number of people buy a camera the day before they leave on a holiday, shoot reel after reel of film and trust to luck that their pictures will be good. Thanks to the simplicity of most movie cameras this is sometimes possible, but mostly the pictures contain many errors that could be avoided.

The most common fault of beginners is misjudging the correct exposure to use. Every exposure meter varies slightly, camera speeds vary and cheap lenses do not always pass the rated amount of light.

The amateur would be well advised to use the first spool of film making test shots. Erect the camera on a tripod, use your exposure meter and set the lens to the aperture indicated, expose 5 feet of film on your subject, then open the lens half a stop, expose another 5 feet, then do the same thing again.

Now go back again to the exposure your meter indicated, expose another 5 feet of film, then close the lens half a



Figure 1. This is not a close-up. A close-up may be taken from . . . Figure 2. A mile . . .

stop, expose 5 feet of film, close it another half stop, expose another 5 feet of film and you should have your test complete.

No less than 5 feet for each exposure is necessary in order to gain a proper appreciation of the varying exposures when the film is projected.

Between each shot hold your hand in front of the lens and expose a few frames. When the film comes back from the processing station these few frames will be black and will serve to identify each alteration in exposure. This may seem a waste of time and film to the beginner, but he and quite a few seasoned amateur filmers would be well repaid to make this simple test.

Attached is a standard fault chart used by the Agfa processing station in Melbourne, designed to help amateurs

recognize their mistakes. A study of this is recommended.

Except for the old trouble of not knowing how near to make a closeup, all early faults are mentioned. Whatever portion of your subject you wish to make a closeup of, have it almost fill the view finder and you have your closeup.

It is a good plan to have a system of preparing the camera before shooting each scene. For the first few shots do everything methodically and slowly and it is possible you will develop a good habit that will remain throughout your filming days.

1. Choose the best angle.
2. Check the spring to see it is fully wound.
3. Focus the lens to correct distance.

(If a turret camera is used set every lens).

4. Measure the light with an exposure meter.

5. Set the lens aperture.

6. If a multiple speed camera is used check speed indicator.

7. Expose the film.

A serious filmer should use a tripod wherever possible. It is the most important of all accessories, particularly when telephoto lenses are being used. They magnify the scene and any movement of the camera is emphasized. If the cameraman is using a camera speed of 8 frames per second or he is waiting for some clouds to arrive he would be well advised to use a firm tripod. One that has a smooth moving head in both horizontal and vertical directions is best.

Figure 3. A yard . . .



Figure 4. Or a foot, but they must fill the viewfinder, have texture and detail.



Notes of the Clubs

Monterey, Calif.

The Peninsula Cine Club of Monterey, Calif., at its regular meeting June 21 held its first showing of its documentary film on the First Christian Church of Pacific Grove. The main purpose of the exhibition was to secure final criticism and editing by the club as a whole of this two-reel 16mm. black and white film.

The making of the film was designed by the club to commemorate the forty-fifth anniversary of the church, detailing highlights of the congregation's history from the first "parlor meetings" in 1894 down to the ceremonies held last April to celebrate the first forty-five years.

Improvements have been made to the club meeting place through the efforts of Dr. Guy V. Rukke. A projection booth has been added to the north end of the meeting room, and additional seating facilities provided for the greater comfort of members of the Club, and to prevent a recurrence of the crowded condition prevailing at the last meeting.

President K. G. Mathison advises that the proposed club 8mm. cooperative filming project will be combined with the Club Field Day, arrangements for which are now being made; and that announcement of time and place for both will be made at the next meeting.

Hermosa Beach Movie Club

The Amateur Movie Club of Hermosa Beach was organized in February of this year. It has maintained interest by allotting to each member some specific task. We are making a picture in which each has a place either in the cast or in the technical crew. It soon will be ready for the club editors.

Meetings are held on the first and third Thursdays for a business session, program and "workshop." Recently we have had on our programs a make-up man from Max Factor's studio in Hollywood; the head of a firm engaged in making commercials; a color man from Burbank and a professional movie editor.

On the second and fourth Thursdays we have rehearsals and shooting. This summer once a month a Sunday excursion is planned to places of photographic interest.

MARGARET M. KRONNICH.

Alhambra, Calif.

A large group of movie fans attended the May Meeting of La Casa Moviemakers of Alhambra, Cal. An interesting demonstration of fotofade was given by the Dye Research Laboratories of Los Angeles. The writer showed his film "Our Glorious West," which gives a travelogue of our western national parks in natural color.

Mr. Winchester ran his 8mm. of Yellowstone, also in Kodachrome. A fine film was shown by Mr. Rodgers, giving some good photography of the San Francisco Fair. It was decided to continue the meetings through the summer instead of taking two months' summer vacation as formerly.

R. A. BATTLES, Publicity Chairman.

San Francisco Cinema Club

The meeting of the Cinema Club of San Francisco was held at 1355 Market street, June 20.

J. O. Tucker screened a black and white and Kodachrome picture, "Guatemala."

K. G. Stephens gave an illustrated talk on editing and titling.

John Smurr ran his picture "Yosemite in Winter Time," which is in black and white and Kodachrome.

Louis Petri showed his Kodachrome pictures of "Follies Bergere" and "Ice Follies."

Through the courtesy of the Western Movie Supply a Castle Film entitled "Camera Thrills in Wildest Africa" was shown.

Los Angeles 8mm. Club

The June meeting of the Los Angeles 8mm. Club was held on the 13th at the Eastman Auditorium, 6706 Santa Monica Boulevard, Hollywood.

President Leitch introduced eight new members to the club.

A feature of the evening was the presentation by Bill Wade of a series of pictures synchronized with sound depicting the numerous methods of lighting subjects with photoflood lamps. Although prepared by General Electric mainly for the edification of still camera enthusiasts it was so well prepared, and the lighting of movie subjects being so simi-



In the South Seas. Photo by Marples.

lar, that the members present received a great deal of benefit from this showing.

In regard to our annual contest the president suggested the possibility of this year's pictures being judged by a dramatic critic, a cameraman and an artist in place of the three cameramen system previously used, in order that the different viewpoints of the judges would tend toward a fairer judging of the various types of pictures submitted. As a basis of comparison the pictures might be classified as follows: 50 percent for general interest, 10 percent for exposure, 10 percent for composition, 10 percent for editing, 10 percent for titling and 10 percent for continuity.

Pictures shown were submitted by Members Ackerman, McEvers, Linn, Finck, Armstrong, Rhoads, Bevans, Crawford, Cornell, Hewitt, Kelly, McEntee and Moore, all of whom won places on the Honor Roll.

Kodachrome rather predominated in the screening as there were only two 50-foot reels of pan shown.

K. J. Crawford's documentary on California wild flowers was very well done and proved really instructive as well as entertaining. Jack Cornell's picture was extremely interesting in that it demonstrated the wipes and dissolves obtainable through the use of the Transito attachment he has had built into his camera.

Meeting adjourned at 11 p. m.

V. P. BURDICK, Secretary.

Los Angeles 8mm. Club

The May meeting of the Los Angeles 8mm. Club was held at the Bell & Howell Auditorium, 716 North La Brea avenue.

C. William Wade was appointed chairman of the Shut-In Committee, to replace C. W. A. Cadarette, whose duties as editor of Thru the Filter prevent him from continuing in both capacities.

Consideration of rules to govern our annual contest provided a lively business meeting and many opinions were voiced by various members. After lengthy discussion the following were adopted:

Section 1. A contest for the judging of films made by Club members shall be held once each year and shall be known as the Annual Contest. The time of entry and judging thereof shall be so provided for that the announcement of the winners, the giving of the awards and the viewing shall be at the Club's annual banquet held in December of each year.

Section 2. Such other contests shall be held during the year as the incumbent officers shall deem advisable for the best interests of the club. Said officers shall in all contests decide the time of entry and the method of judging all entries.

Section 3. Only those members, excluding honorary members, whose dues are paid to and including the month of the meeting when the winners are finally announced shall be eligible to enter and participate in any contests held.

Section 4. Any contestant may enter more than one picture. However, only one picture will be eligible to win a prize. Additional pictures will be judged and given honorary award of their position of placement. The award of a prize to any film shall not prohibit it from winning the Horton Vacation Trophy or any other special award granted or given by persons other than this Club.

Section 5. All contest pictures shall be 8mm., no reductions allowed; may be any length and must have at least an opening and closing title. Sub-titles are not required. No commercial pic-

ture or one made or produced for compensation or made at the same time and on the same set as a commercial picture, shall be eligible.

Section 6. No picture winning a prize in any annual contest shall be eligible for entry in any subsequent contest. Pictures, however, entered in monthly or mid-year contests shall be eligible for entry in annual contest.

Films shown were those submitted by members Gecker, Parsons, Leitch, Smith, Gilley and Coleman, "Santa Fe in Miniature" by Allen P. Smith providing a real thrill for the model railroad fans present. This picture, taken of the Santa Fe exhibit at the 1936 San Diego fair—a scale model of part of their system—was an excellent example of miniature set photography, especially when the camera was mounted in front of the en-

gine to give the audience the sensation of actually riding on the train.

V. P. BURDICK, Secretary.

Agfa Adds Three Cykoras

Introduced but a short time ago for portrait work, Agfa Ansco's new projection paper Cykora has been accorded such a reception by photographers that three new surfaces have now been made available to meet the demand for this paper in fields other than portraiture. The new surfaces—glossy single weight, commercial art, single weight and commercial art, double weight—are all offered in three contrast grades that are evenly spaced in gradation.

New B & L Specialty Head

George G. Tschume, head of photographic lens sales for the Bausch and Lomb Optical Company, has been named to assume the management of the company's specialty department, left vacant by the resignation of Roy G. Walker.

Mr. Tschume has been in the company's employ for thirty years, serving in the factory, production department, stock rooms, and as sales representative in New York City.

Chicago Cinema Club

The Chicago Cinema Club on June 1 occupied its new permanent quarters at the Chicago Engineers' Club, 314 South Federal street, for all future meetings. In addition to many new conveniences the club will have larger quarters, guaranteeing better accommodations for the rapidly growing organization.

Regularly weekly meetings are held throughout the summer. There was a picnic in June and a sailing trip in July. On August 3 there will be held a program for potential and expert fishermen. There will be shown Expert Fishing Pictures.

A Real Record

Carroll Davidson of the Minneapolis Cine Club is a charter member with a perfect attendance record. The two brothers Sprungman, Ormal and Ralph, are runners up, with only one or two misses in three years, and those excused. The 1938-9 season recorded seventeen members with a perfect attendance.

Building Movies Around Music

(Continued from Page 321)

without a single break in music or action.

In screenings which follow, film always will be in sync with the recording, provided that both are started simultaneously and at the proper place. Special marks can be made on both record and film to aid in projection.

Utilizing his synchro-talkie outfit, Leffler has been able to work up a complete picture from a recording of his own voice. This is cut from the usual blank and later played back during actual filming, at which time the subject goes through identical lip movements.

Perhaps one of Leffler's most successful synchro-talkies was a movie recording of the old favorite "Margy." Playing the dual role of actor and director, Leffler also supervised photography, picturing his lathered face in a typical shaving scene during instrumentation, but bursting out in song as the vocal came on.

To climax his stunt, he picked a recording with a soprano voice. The feminine voice coming from masculine lips, perfectly synchronized, pulls more than a chuckle from every audience.



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Dye Transfer Enters Commercial Field

(Continued from Page 310)

parison with various stages of the reproduction on paper.

With the present cut size professional Kodachromes it is possible to make high quality separation negatives of identical size. Size variance has always been a difficult problem in one-shot camera work, and few, if any, have ever been able to completely eliminate it.

Carbro, or other flexible color sheet materials can use one shot negatives successfully because they may be stretched into register, but the dye print does not lend itself to this procedure because all matrices must, by their very nature, be of identically the same size and shape.

Study and work on actual transfers over a period of several months has proved the extreme efficiency of the Color Process Laboratory's staff of workers, and has in that short time taken the transfer of color prints out of the hands of not only the advanced amateur but of the professional photographers as well.

For it presents a singular concentration of artistic effort and scientific equipment, too exacting for the professional to devote his time toward perfecting without sacrifice of otherwise more profitable work.

Commercial Uses Interesting

Advertisers frequently make use of these dye transfer prints when it is found desirable to make up composites by photographing the backgrounds separately from the action, or subject part of the picture. This is a phase of the work quite common to black and white photography, but heretofore too complicated and expensive for the color field.

Prints are of such a high quality that they are used in commercial work where retouching or blocking is necessary to gain a desired result. The halftone plates may then be made by the lithographer from the imbibition print.

McLaine and Baker also furnish balanced sets of fully masked separation negatives from which the imbibition prints have been made. These may then be used directly in the lithographic process.

It is never practical nor economical for the advertiser to have lithographic color plates made in small quantities. This is a field peculiarly fitted to the imbibition color prints, which may be furnished in small numbers from the original matrix at astonishingly economic prices. Such application is frequently made toward the forming of salesmen's booklets, sample catalogues, and the like.

Many prints made by Color Process Laboratories have been processed for the largest advertising firms in the country and have been used by them for 24 sheet posters seen along the highways, also for reproduction in the higher grade of periodicals.

Profitable Child Portraiture

By H. Rossiter Snyder. Fomo Publishing Company, Canton, Ohio. Revised Edition. 1939. 50 cents. 37 pp.

This is No. 3 of the new series of "Profitable Photography" booklets by the author, well known as a camera writer. The chapters are "What Is the Business Like?" "Making the Child Portrait," "The Business End of Child Portraiture," "Mechanical and Darkroom Procedures" and "Child Portraiture as a Business or Side Line."

The booklet is packed with suggestions for photographing children, suggestions that will appeal to the amateur as well as the professional. "I

would not operate with a camera making smaller than four by five inch negatives," writes the author, "simply on account of the psychological effect which a too-small camera gives.

"Although a 3¼ by 4¼ reflex with my same lenses would serve my purpose equally well and be lighter to carry and slightly more economical to operate, I would not work with it in child portraiture simply because if the equipment appear to be of too small size you are looked upon as an ordinary snapshotter; your work, no matter how good, will not command the same respect or prices over a long period of time. At best it will be said of you 'Yes, he is clever with his baby camera.'"

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“Feminine Foolishness”

By CINEMA Maker

Scene 1 (Exterior). Front of Florence's home. A small car drives up and Allan alights. He crosses to front door.

Scene 2 (Medium). Allan ringing door bell and being admitted by her father, who greets him with affability. He likes to see Allan and is glad that a fellow of his commendable sort calls on his daughter.

Scene 3 (Interior). Florence's living-room. Her mother seated sewing as Allan and her father enter. Her mother's sentiments regarding Allan are the same as her father's. Her father waves Allan to a chair as he proffers him a cigar and seats himself in a nearby chair. Her mother rises and indicates that she'll go up and hasten Florence.

Scene 4 (Medium). Her mother going up stairs.

— C A S T —

Florence.....a foolish femme.
Her Mother who hopes for the best.
Her Father...who fears the worst.
Allan....whose love is unwanted.
Madge.....her co-hero-worshiper.
Steve.....resort's athletic pro.

(Properties)

Two small cars, luggage, sport clothes, etc., for a vacation at a Lakeside resort, the like of which exists in every State in the Union. Assortment of various sports action pictures.

Scene 5 (Interior Florence's room). As her mother comes in the door, Florence

is seated at her dressing table applying make-up. (Pan camera about room picking up various photographs, rotogravure pages, etc. revealing various prominent movie, sports, and other athletic stars in action poses. Footballers carrying the ball, tennis champs in action, aquaplane riders, polo players, et al., establishing the fact that Florence is an extreme hero-worshiper.)

When her mother tells her that Allan is waiting for her downstairs, she merely shrugs. (Narrative, descriptive, or dialogue sub-titles may be used.) This irritates her mother, who likes Allan and detests her daughter's foolish hero-worship. Her mother waves a deprecating hand toward the various pictures adorning the walls. It's a lot of nonsense—this dream-chasing.

On a table or desk, from behind an assortment of other “hero” pictures, her mother draws out a photo of Allan and places it in front of the others. Her daughter shrugs again. He's all right—until the real thing comes along. Her mother thinks she is making a big mis-

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take. She's known Allan for six months now, having met him last winter, and he's the right sort. He obviously is intensely in love with Florence, too, and wants to marry her. Finally they go downstairs together.

Scene 6 (Interior living room). Allan and her father agreeably conversing as Florence and her mother enter. Both men rise. Bidding adieu to her parents, Allan takes Florence's arm and they leave.

Scene 7 (Exterior). Front of Florence's home. Florence and Allan crossing to his car, which they enter. They drive off (Fade-out.)

Scene 8 (Fade-in) (Dusk Exterior). Allan and Florence parked by the roadside in a romantic setting. His arm is about her shoulders and he's telling her how he adores her, worships her—loves her. Unresponsively, she accepts his kisses. She listens attentively, but without enthusiasm. Finally she tells him that she appreciates all of it, that she doesn't want to hurt him—but that she doesn't love him. Maybe she'll change, someday, but she doubts it. He is sad, downcast, discouraged, even slightly heart-broken. With a sigh, he starts the car. They drive off. (Slowly fade-out.)

Scene 9 (Fade-in). Florence's room. Florence is packing for a vacation trip. Seated is Madge, her girl friend who's going with her. They're going to a nearby Lakeside resort. Madge gets up and wanders about the room inspecting the various pictures. While she, too, is a hero-worshiper like Florence, she doesn't carry it to the extreme that Florence does. Madge comes to Allan's photo, picks it up.

She's never met Allan, formally, but she knows all about him from Florence, and she thinks that Florence is foolish to treat him the way she does. Secretly, she'd like to have a fellow like Allan, but she knows she can't do anything about it and still remain Florence's friend; and, like almost all women, she puts her girl-friend's friendship ahead of that of ANY man. Kiddingly, she

suggests that if Florence doesn't want him, can she have him? Florence at first registers a quick suspicious glare; but, seeing Madge is only kidding, says sure, she can have him, if her hick tastes are that easily pleased. Florence concludes her packing and the two girls leave (Fade-out.)

Scene 10 (Florence's living-room). Florence kissing her mother and father adieu, who see the two girls to the door.

Scene 11 (Exterior Florence's home). The two girls leaving and boarding Florence's small car. The bags are stowed in back. They drive off (Fade-out.)

Scene 12 (Fade-in). Long-shot, or panorama, of lakeside resort, including angle shots from various vantage points; not forgetting sky, trees, landscape effects, as well as gay activities of swimmers, boaters, aquaplaners, fishers, etc.

Scene 13 (Exterior). Florence and Madge strolling along a promenade. They pause to watch Steve, the resort's athletic pro, doing some fancy dives. There are a number of other girls watching his work with unconcealed admiration and much applause after each dive. (Cut in closeups of dives.)

Scene 14 (Medium). Florence nudges Madge indicating that's the kind of a man she wants. Madge indicates the mob. There's too much competition.

Florence shrugs—what does she care for competition? She can outshine any gal there. Besides, she knows how to play up and use to great advantage what all the boys go for—and the bigger they are, the harder they fall. (Fade-out.)

Scene 15 (Medium). Florence and Madge strolling back along the way they came. Florence sees something that makes her jaw sag.

Scene 16 (Closeup). Florence, her jaw asag, first irritated, then outright annoyed. (Pan camera to pick up that at which she's looking.)

Scene 17 (Medium-long). Allan alighting from his car carrying suitcase and heading for the place to register.

Scene 18 (Medium). Florence and Madge. Florence motions Madge to wait right there, as she'll only be a minute. She going to give Allan a piece of her mind.

Scene 19 (Medium). Beside the registry. Florence stomps into the picture seething with impulsiveness and demands to know of Allan why he followed her up here; that it was presumptuous of him to think he could tag along and cramp her style; just because he's known her six months, and has had a few dates with her, he doesn't own her, etc. (Subtitles may be necessary, unless the girl acts.) She winds up by saying that she

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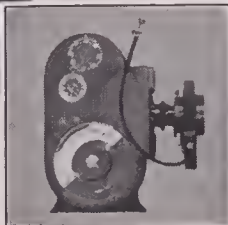
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hates him, for coming up, and never wants to speak to him again—and that he will kindly not ever speak to her again.

Scene 20 (Medium). Allan is abashed and embarrassed, but he weathers it rather well much to the amazement of the bystanders. He indicates that it's a public resort and that anyone may come and go as they choose.

Scene 21 (Medium). Florence, giving him one final glare, flounces out of the picture.

Scene 22 (Medium). Madge observing the above scene with considerable personal interest. So *that* is Allan. He looks pretty good to her. Although she's seen his picture many times, and heard much about him from Florence in the latter's depreciating manner, this is the first time she's actually seen him. One supercilious eye-brow raises as we—(Fade-out.)

Scene 23 (Fade-in) (Medium). Florence without Madge watching Steve at some sport; (i.e. whatever's available: diving, aquaplaning, archery, tennis, badminton, et al.) She flirts with him and he responds. They make a date for

later that evening. Then she leaves to find Madge.

Scene 24 (Medium). Allan enters and joins the sport which is dominated by the pro and proves to be as good as the pro, which wins the latter's sincere and complete respect. Allan and Steve get along well like a couple of buddies. When Allan expresses complimentary envy for Steve's popularity with the females, Steve only shrugs and expresses that he's bored with all of them, but that he has to be nice to them because it's part of his job.

Fact is, Steve wouldn't give a candle for the best of them. As they go on with the sport in which they are participating (in fact, several sports may be used if they are available in a series of sequences), the feminine followers and amateur participants hail Allan in preference to Steve—because Steve is the pro and works at it for a living, while Allan is a guest and is otherwise fair prey for the brief time he'll be there. Allan takes these "weaned-away-from-the-pro" followers in stride and it doesn't go to his head.

In fact, the only time he loses his

mental equilibrium is when he's talking to the girl he loves. When this happens his arms are all hands, and his hands all thumbs, and he's also tongue-tied. But, girls don't appreciate this as true signs of love, rather than the stupidity, dumbness, and clumsiness, which latter is what they really think it is. So he accepts the adulations of the mob of females and he and Steve get on with their sport. (Fade-out.)

Scene 25 (Medium-close). Florence and Madge sitting, sipping a drink. Florence brags to Madge that she has a date with Steve that night; and that, after she has him "hooked," she'll ask him to get a friend who's as good at the various sports as he is for a double date with Madge the next night. (Fade-out.)

Scene 26 (Evening). Florence and

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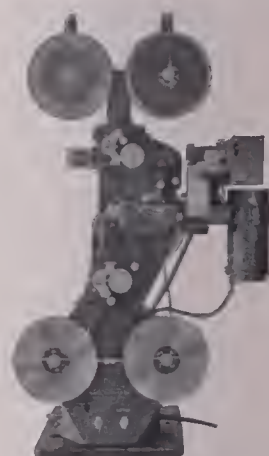
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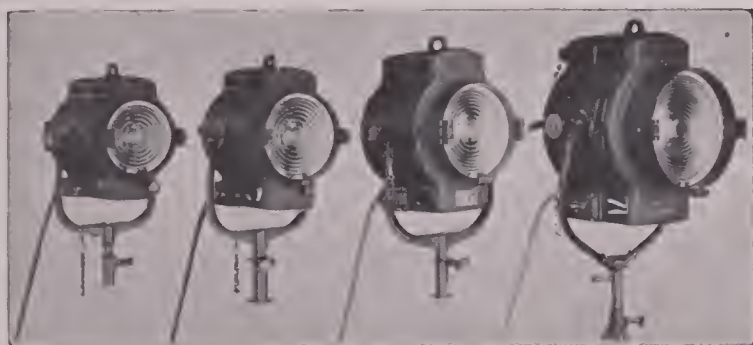
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Steve keeping their tryst. They stroll off for a walk, a canoe ride, or whatever is available.

Scene 27 (Closeup). Florence throwing herself into Steve's arms, as soon as the opportunity affords and we fade out.

Scene 28 (Medium) (Fade-in) (Night). Florence and Steve returning from whatever they've been doing (canoeing, walking, etc.). They meet Madge strolling with a young fellow she's met at the dance. Florence introduces Madge to Steve. The two pairs go their respective ways.

Scene 29 (Medium-close). Florence, possessively hanging on to Steve, tells him that that's her girl-friend, and will he get a friend for her for the next night and make up a foursome. He agrees. (Fade-out.)

Scene 30 (Day) (Fade-in) (Medium). Steve and Allan engaged in one of their favorite sports. Madge strolls by without Florence.

Scene 31 (Medium-close). Steve nudges Allan and, indicating Madge, asks him how he'd like to make up a foursome with her that night and other girl he knows. Never having met Madge, and not knowing who Steve's other friend is, Allan agrees.

Scene 32 (Medium). Steve and Allan continue to receive the adulations of the crowd of girls as they continue their sport. Florence joins Madge in the throng, and for the first time observes Allan's prowess.

Scene 33 (Close-up). Florence amazed at the ability of Allan. She never dreamed he had all this in him. Inwardly she begins to feel sorry for the way she's treated him; but, outwardly, her stubborn pride won't let her give an inch—much less admit she's wrong.

Scene 34 (Medium). Irritated by the popularity of Allan, Florence drags Madge away from the mob of "dizzy dames" not realizing that she's always been one of them and suggests that they do something else.

Scene 35 (Closeup). Madge is amused at Florence's irritation; and although she doesn't want to leave the audience watching the two boys, she'd rather be

agreeable to Florence. So they both leave. (Fade-out.)

Scene 36 (Fade-in) (Night) (Medium). The trysting place where Florence and Madge are to meet Steve and Allan. Florence still does not know that the extra man is Allan. When the four get close enough for recognition, Florence is amazed to see Allan, but quickly recovers and throws herself into Steve's arms for a kiss.

Scene 37 (Closeup). Florence in Steve's embrace, as she watches out of the corner of her eye the greeting between Allan and Madge, which is comparatively formal.

Scene 38 (Medium). The four chatting as they link arms in couples, and stroll away by pairs.

(Here a series of scenes depending on the settings available: on benches under trees, low-hanging tree branches, small foot-bridges over streams, canoe landings, lakeside walks, etc. Through-out Florence is doing the clinging vine act with Steve, throwing herself at him with every movement, every gesture; while Allan and Madge are a bit more formal—but not too much so.)

Scene 39 (Medium). All four return-

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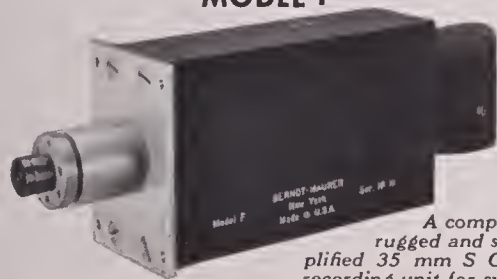
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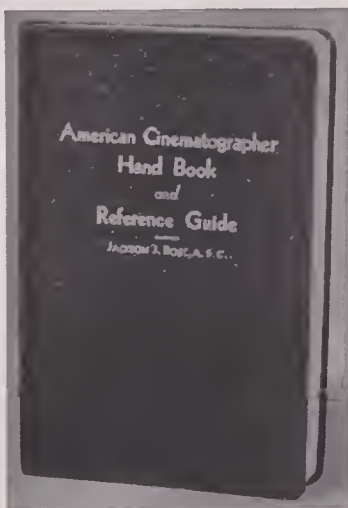
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ing to the starting place and break-up for the evening. Both couples slightly separate for intimate conversations.

Scene 40 (Closeup). Florence and Steve in the throes of arduous good-night kisses.

Scene 41 (Closeup). Allan and Madge. He asks her to meet him alone early in the morning without Florence, for a swim or a horse-back ride (or whatever is available) to which she agrees. He kisses her (lightly), to which she responds good-night.

Scene 42 (Medium). The two men going off together in one direction and the two girls in another. (Fade-out.)

Scene 43 (Interior) (Medium). The two girls in their room. Florence begins to act chilly towards Madge. Madge remonstrates that she didn't know. It's the beginning of a big row to come later. In this scene the chilliness just begins as they retire. The girls may be shown undressing (as far as the censor allows) as the chilliness of Florence for Madge begins to permeate their environment. (Fade-out.)

Scene 44 (Fade-in) (Exterior). The trysting place of Allan and Madge. They stroll off for their swim, or canoe ride, or hike, or horse-back ride, or whatever it is.

Scene 45 (Medium-close). Allan and Madge in repose and in intimate conversation. To all appearances they are "a peach of a pair." They seem to belong together. As they both discuss all sorts of things; especially the clouds, trees, grass, and nature in general—time flies.

Scene 46 (Medium). Florence, cattishly suspecting that Madge is out somewhere with Allan, is trying to wander about apparently casually but actually looking for them. Eventually she comes upon them in Scene 45.

Scene 47 (Medium). Same as Scene 45. Allan and Madge with Florence entering the scene. Emphatically snubbing Allan, Florence begins to give Madge a piece of her mind. She does it unthinkingly, impetuously, jealously, wrathfully, and succeeds in making quite a scene. Madge handles the situation beautifully, calmly, quietly reminding Florence of her attitude toward Allan as it was frequently told to her (Madge) by Florence almost as long as they have known each other, etc.

Finally, unable to bear Madge's quiet calmness, even more unbearable than the accuracy of her assertions, Florence slaps her face. Then Allan sees the light. Fully realizing what an unspeakable girl he has been in love with, he steps into the proceedings and sides with Madge. (This business may be handled at the discretion of the director, de-

pending on the dramatic ability of his players.) Finally, Madge and Allan depart, leaving Florence fuming. (Fade-out.)

Scene 48 (Fade-in) (Exterior). Madge and Allan putting their bags in Allan's car. They both have decided that they are very much in love. They both enter the car; and, after several generous demonstrations of affection, they drive off.

Scene 49 (Medium). Florence in another part of the resort trying to hide her chagrin. She sees Steve—but Steve sees her first—and when she approaches him, he begs to be excused—he has work to do. There is a new feminine arrival near Steve, on whom he seems to be concentrating his attention.

Scene 50 (Medium). Florence sees a handsome new male arrival, and she

begins boldly, and with a vengeance—almost outrageously—flirting with him as we

(Fade-out)
—The End—

AGFA Introduces New 16mm. High Speed Reversible Film

Climaxing a period of extensive research, Agfa Ansco now introduces Triple S Superpan Reversible, a new 16mm. motion picture film that provides extremely high speed without sacrifice of other desirable emulsion characteristics.

The new film is four times faster than Agfa 16mm. Superpan Reversible, and accordingly, permits two lens stops less exposure or a corresponding increase in subject range for any camera in which it is used. Because of its extreme speed, Triple S Superpan is ideal for outdoor and indoor night scenes, for slow motion films of football, baseball, hockey and other sports in poor light, and for a wide range of other subjects which have heretofore been beyond the reach of cine equipment.

Of equal importance to this increase in speed, Agfa Triple S Superpan Reversible combines with its high sensitivity exceptionally fine grain and brilliant gradation, thus assuring clear, sparkling pictures on the screen. Latitude of the film is also excellent. Halation protection is provided by the effective underlayer used on all Agfa reversible films.

Benoit Starts Shooting on Production in Cairo, Egypt

Georges Benoit, A.S.C., foreign representative of The American Cinematographer, is now in Egypt, where in Cairo he will photograph for the Abdel-Wahab Film Company a production headed by the famous M. Abdel-Wahab. The star is the greatest singer of all the Mussulman countries. He is directed by the well-known M. Mohammed Karim.

It is Benoit's fourth production with the same company. Each of these so far has been started in Cairo and finished in one of the Paris major studios. Production is expected to continue about two months. Due to the warm weather work usually begins at 4 p.m. and finishes at midnight.

The cinematographer is the only European member of the company, all the others being Egyptians. Nevertheless the producer and the star speak both French and English, which makes it all very simple for the photographer.

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Government and Amateurs in Bombay Join for Uplift

The Government of Bombay is cooperating with the Amateur Cine Society of India in order to get films which will teach industrial workers something of social uplift in its various forms. It is offering a first prize of Rs. 500 and total cash prizes of Rs. 750 for substandard cine films.

This is part of a larger contest organized by the Amateur Cine Society of India from its headquarters at Scouts' Hut, Esplanade Maidan, Bombay. For this competition there is a total of Rs. 2000 in prizes comprising two cups, ten plaques, a medal, various cash prizes, cine apparatus, etc.

There are twenty-three prizes in all, the majority being in cash, and a handsome cup for the best film, with a separate cup for the best color cameo of 100 feet, and bronze plaques designed by the Sir J. J. School of Art, Bombay, for the ten best films of India, Burma and Ceylon.

Closing date is the end of the year, and entry form with full particulars are given in a brochure which the A.C.S.I. has issued entitled "Amateur Cine Work in India."

Agfa Ansco Announces New 20-Exposure Leica Cartridge

Users of Leica and similar 35mm. miniature cameras who prefer film lengths shorter than the standard 36-exposure load will be interested in the new 20-exposure Agfa film cartridge that has just been introduced.

Available in five popular types of Agfa 35mm. film—Fine Grain Plenachrome, Superpan Supreme, Ultra-Speed Panchromatic, Finopan and Infra-Red, the 20-exposure length is supplied in the same improved-type daylight-loading cartridge used for 36-exposure lengths of Agfa film.

The new 20-exposure cartridge does not replace the 36-exposure unit, merely supplementing it to round out the group of Agfa 35mm. films. Made by Agfa Ansco Corporation in Binghamton, N. Y., these new film cartridges are now in dealers' stocks and are listed at the following prices: Superpan Supreme, Finopan and Ultra-Speed Pan, 65 cents each; F. G. Plenachrome, 60 cents; Infra-Red, 75 cents.

Japan Tightens Film Grip

The Government of Japan is taking steps to control all phases of the motion picture industry in that country, according to a report from Consul S. G. Slavens, Tokyo.

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Under a proposed law now being considered by the Imperial Diet official permission must be obtained in order to engage in the film industry. This permission may be withdrawn at the will of the Government. Control over films as proposed by the law includes not only censorship but also designation of the kinds of pictures to be produced. The importation of foreign films and the exportation of Japanese films will be officially controlled, the report said.

First Mid-Western Forum Conducts Two-Day Session

Because of the greatly increasing use and demand for visual and audio-visual aids, the First Mid-Western Forum on Visual Teaching Aids was held at the Hotel Morrison, Chicago, May 12 and 13.

The primary purpose of the program for this First Mid-Western Forum on Visual Teaching Aids was to provide help to the classroom teachers interested in information concerning the use of visual teaching tools.

The program each day was divided

into three clinics; the elementary school, the high school and the college clinic. The approach and the unique character of the features in these clinics were most helpful and instructive.

Biological Photographic Association in Convention

The ninth annual convention of the Biological Photographic Association was held September 14-16 at the Mellon Institute for Industrial Research, Pittsburgh, Pa. The program was of interest to scientific photographers, scientists using photography as an aid in their work, teachers in the biological fields, technical experts and serious amateurs. It included discussions of motion picture and still photography, photomicrography, color and monochrome films, processing, etc., all in the field of scientific illustrating. Up-to-date equipment was shown in the technical exhibit; and the Print Salon displayed the work of many of the leading biological photographers here and abroad.

The Biological Photographic Association was founded nine years ago because of the growing need for expert illustrative material for scientific research and teaching.

Information about the association and the convention may be obtained by writing the secretary of the Biological Photographic Association, University Office, Magee Hospital, Pittsburgh, Pa.

Univex Now Has Three Lens Turret for 8mm. Cameras

The Universal Camera Corporation of 28 West Twenty-third street, New York, has produced a Univex three-lens turret 8mm. camera with either 4.5 or 3.5 lens. For the two others the purchaser may select lenses of varying speeds of focal length to suit particular needs. Any one of the three lenses may be snapped into position instantly. The new turret camera complete with the three lenses weighs less than three pounds.

Putting Typewriter in 16mm.

A motion picture on the typewriter—what it is and how to use it—has been completed by Harmon Foundation, Inc., New York. In making this film, the first of its kind to be produced, the Foundation was assisted by the six major typewriting companies. Entitled "Know Your Typewriter," the motion picture is a three-reel 16mm. silent one, since this is the type of film most generally used by schools, clubs, and business office groups.

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Camera Pictorialists of Bombay Hold Third Salon

Under the auspices of the Camera Pictorialists of Bombay the third Indian international salon of photographic art will be held at the Town Hall, Bombay, during the coming November. The Pictorialists are affiliated with the Royal Photographic Society of Great Britain. The exhibition will be held under the patronage of Sir Roger Lumley, governor of Bombay. The last day for receiving entries will be September 8, 1939.

Not more than four prints, which must be the unaided work of the entrant (mounting excepted) may be submitted by any one contributor, and each print must have on the back clearly written in block letters section, number and title of print; name and address of contributor; and process to agree with entry form.

N. B. Cooper, honorary secretary, calls particular attention of contributors to the closing date of receiving entries, expressing his regret that at the last exhibition it was necessary to return an unusually large number of entries received too late for consideration.

Inquiry at the local post office brings information that the normal mailing time between Bombay and New York is from nineteen to twenty-three days.

Sound Men Witness Vocoder Tryout

(Continued from Page 296)

twice normal, the voice seems more brilliant; when four times normal it sounds febrile, unnatural. The controls can be reversed so that high becomes low; tune of a song is unrecognizable, and speech has the odd lilting character of the Scandinavian tongues.

Miraculous Trio

After explaining the fundamentals of the Vocoder circuit Mr. Dudley proceeded to demonstrate the tonal qualities of a sentence when delivered with Vocoder running up and down the electrical frequency scale. At the low end, the voice was a deep rumble, while at the top side was a shrill sound with the words faintly recognizable.

Then Mr. Vadersen, in normal tones, spoke into the microphone, but the quavering voice of an old man emerged from the loud speaker. By combining three different pitch channels of the Vocoder, the one voice came out of the loudspeaker as a trio singing in unison.

Through records played on a turntable and attached to the Vocoder, the demonstration then proceeded to show that speech can be created out of complex sound, and used as examples starting of a train, an aeroplane flying overhead, the musical tones of a pipe organ, and the hum of a power generator.

Uncanny and magical was the creation of words from the purring aeroplane, and the train; but most amazing was the word accompaniments created by the

Vocoder from musical instruments. A pipe organ record suddenly transformed the treble notes of the chorus into easily recognizable words—and the exact words of the song itself. The same effect was secured by Vocoder treatment of a recording of a string quartette.

British Cinematographer Talks of Hollywood

(Continued from Page 303)

ten cameras and their crews ready to go on at almost as short notice.

In England, we are not so fortunate. In too many cases a camera mishap, or a sudden call for extra cameras, can mean exasperating delays to production, simply because the studio is not likely to be equipped with many spares.

In general, the chief differences between Hollywood and English production is in just such little things as that; little accessories which we often have to improvise on the spot, but which you in Hollywood not only have already as a result of the many years of production activity in your studios, but which you take as a matter of course.

American Influence

Much of the general similarity between Hollywood and British studios, methods and equipment can be credited to the influence of the several American cinematographers and other technicians who have been active in British production during recent years.

An American art director, Jack Okey, designed and built the Denham Studio;

other American photographers and technicians have had much influence in equipping our studios with the things which Hollywood's years of experience had proved best.

Some of my more impetuous compatriots have expressed resentment at the activities of American cinematographers and technicians in the British studios. I have never been able to justify this attitude. I do not believe that the activities of any of the outstanding Americans who have made pictures in our British studios have kept any comparably capable British technicians out of work.

On the other hand, we have much for which to thank our American fellow-cinematographers. At the time when we were most urgently in need of it, they brought to us the most up-to-date knowledge of methods and materials from the world's greatest production center—knowledge which has played an important part in the last few years' progress in British films.

In addition, their work and the salaries paid them have done much to impress our producers with the value of capable photographers. These salaries, in turn, are bearing fruit in a slow but steady improvement in the compensation paid to British cameramen and their crews.

As compared to American standards, there is still much to be done in this direction; but I feel that the influence of the Americans who have made pictures in British studios has done much to start the ball rolling in the right direction.

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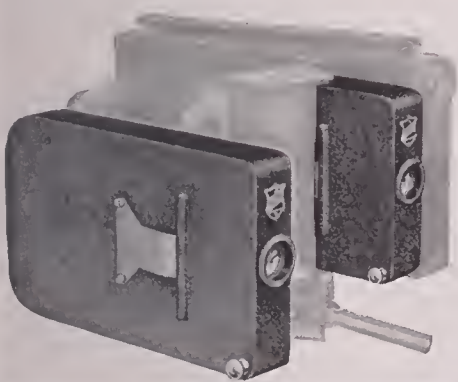
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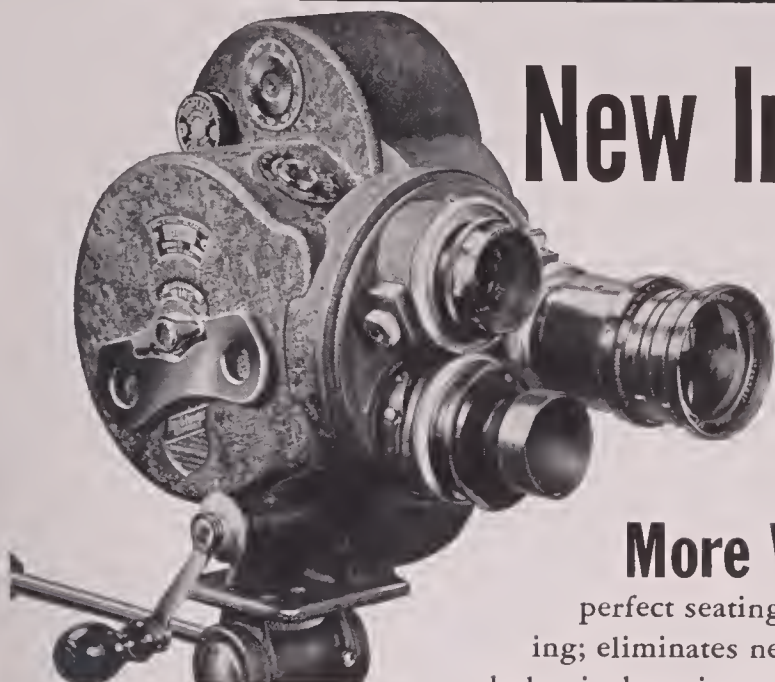
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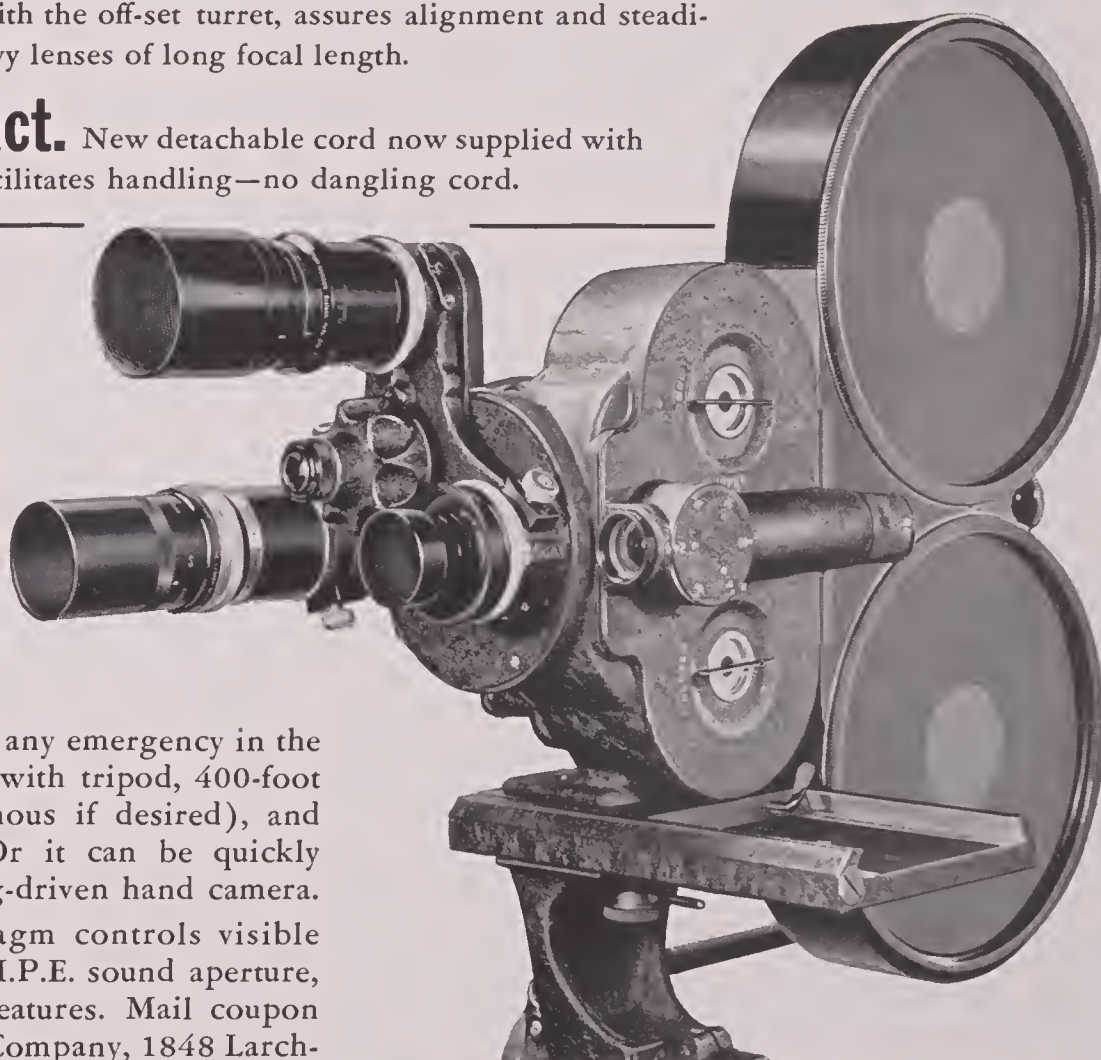
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Front Cover

ON a Warner Brothers set are shown crew and players of what now is rated as one of the more important pictures of the year, "The Lady and the Knight." Bette Davis and Errol Flynn sustain the parts of Queen Elizabeth and Lord Essex. Miss Davis is shown in left centre talking to Director Michael Curtiz.

In the front is Sol Polito, A.S.C., director of photography, standing just below Curtiz. At the extreme left and facing Polito is W. Howard Greene, A.S.C., specialist in Technicolor.



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DOCUMENTARY No. 1

THIS has been a great month for the historical in motion pictures. The March of Time has come through with "The Movies March On," tracing the rise and development of the picture industry across forty and more years. On the screen it flashed for twenty minutes. It is an unusually interesting cross-section of what has been done by the film industry, but its magnitude is submerged in the much greater results secured by the industry itself in the making of "Land of Liberty."

In this production, running 2 hours and 15 minutes, 54 companies have contributed negative from 124 subjects covering a period of 25 years. In this instance the theme was not an industry but a nation, from its birth to the present day. Some of its more recent participants were shown in the flesh, so to speak, but of course the majority of the men and women were portrayed by players. Of these latter 128 are identified.

Beginning at the end of 1938 the picture was assembled and edited by a crew headed by Cecil B. DeMille. Assisting him were Herbert L. Moulton, William H. Pine and Francis S. Harmon. James T. Shotwell, distinguished Columbia professor, as consultant, made two trips to Hollywood, when the work was started and when the final assembling and editing was done. The narration was written by Jeanie MacPherson and Jesse L. Lasky, Jr.

The picture is in fourteen reels. Some conception of the labor connected with the welding of the material may be gathered from the fact that two million feet of film were examined. These figures do not include the vast amount of newsreel subjects that were put on the screen.

Replacement value of the scenes in the production is set at fifty million dollars. The number of persons appearing in the cavalcade has been "conservatively checked" at thirty thousand. After looking at "Land of Liberty" it is unlikely any one with picture experience will doubt the approximate accuracy of the estimate.

The picture opens with President Roosevelt at a microphone. He refers to America as the Land of Liberty, where the oppressed of other lands get their second chance. Colonial scenes follow, in some of the sequences of which Johnny Bull is not going to feel entirely pleased—but in which the asperities hardly could be softened in the interest of accuracy.

There are many thrills in "Land of Liberty" . . . not merely the ordinary thrills that accompany hazard of life or of limb, but those that respond to the utterances of great words in most dra-

By George Blaisdell

matic setting and also in what prove in later times to have been in great days.

One of the outstanding sequences is the singing of Paul Robeson as soloist and leader of the negro roustabouts in the river steamer scene from "Showboat."

The whole sequence is a triumph, as it must be to have stood out as it did when surrounded by so long an array of great events. It is a triumph, too, of recording and reproduction.

There is much in the fourteen thousand feet to afford opportunity for study—on a subsequent showing, of course; hardly on the first—of the progress of picturemaking. It is a history, too, of technique. The earlier scenes of the subject demonstrate the presence of the more primitive equipment, the progression of the camera, as it were, right up to the final achievements in color.

The more expert may detect advances in lighting, set designing, make-up and mechanical construction. It may be noted here that the entire production has been printed under uniform conditions of modern laboratory equipment and positive stock.

The picture is one that reflects abundant credit on those having to do with its selection and polishing, mechanical and literary. So it is to be regretted, all the more, that the presentation suffers from the abomination of dual commentary.

It is a maxim as old as the stage itself that to break illusion is unthinkable; that it is not theatre.

Carrying out the obsession of immaturity that the commentator must put hysteria and panic into his voice in order to put thrill into his listener, followed by the practice of employing alternating commentators striving one to outdo the other on news programs, rather than a single commentator with steady and unexcited but appealing tone, much of "Land of Liberty" was made vocal by the employment of two men, each speaking briefly.

While in the present instance there is no charge of hysteria or panic, nevertheless the auditor is unable to get under the spell or illusion of a sequence before with a jolt administered by a change in voice he again is brought to a realization that he is in a theatre after all and that what he is gazing on and what he is listening to is not a bit of life. It is just what the children describe as play-acting.

The voice of the commentator—and only one commentator—should possess the subtle quality that rides in the ideal music of the scorer. The auditor

should sense it and absorb it. But he should be unconscious of it.

"Land of Liberty" deserved all of that.

* * *

But of course there's no one person sees both sides of the shield. Undoubtedly that is the underlying principle of a publication when giving a reviewer two tickets in assigning him to cover a first night. It desires the benefit of the restraint that goes with companionship, the subtle restraint if you will, and the unconscious influence of the feminine viewpoint in tempering that of the unwittingly hardboiled masculine.

So this writer handed a proof of the foregoing remarks to the woman who for lo these many has prepared his breakfast and then had the patience to sit with him and share it. The woman, it may be said, is a born and reared New Yorker, whose early admiration for the stage has never been quite displaced by the screen.

"I think you're wrong," was the comment as the proof was passed back. "The illusion was complete for me. In the past twenty-five or thirty years I have seen with you a great majority of the great pictures you have seen. I am sure none of these has thrilled me as did 'Land of Liberty.'"

"It thrilled me because for perhaps the first time in my life it gave me a fuller realization of what it means to be an American—it brought home to me as never before how precious a privilege and what a great honor it is . . . and how proud I am . . . to be an American!"

AT the Newsreel Theatre in Hollywood this month I was privileged to see Columbia's short, "A Man Made Island." It is a story of the San Francisco Fair. It was photographed in color by Frank B. Good, at the time of his sudden death in May the secretary-treasurer of the A. S. C. Undoubtedly it was the last work done by Frank Good—and it was well done.

HOLLYWOOD was a month ago given an opportunity to look on "The City," an American documentary film of four reels—and probably in many respects the most pretentious of any American documentary subject to date. It is being shown regularly at the World's Fair in New York. Seen there by Walter Wanger, and quite naturally admired, he laid plans to have a print brought to the West Coast and shown here.

The subject was from an outline by Pare Lorentz and a scenario of Henwar Rodakiewicz. It was photographed and directed by Ralph Steiner and Willard Van Dyke, assisted by several others. Thirty-six locations are listed, and they range from New England and New York

to Los Angeles and to London and other points in England.

The production was made possible by a grant from the Carnegie Corporation of New York, the film being divided as follows: "In the Beginning" (New England); "The Industrial City," "Men Into Steel" (the metropolis); "The Endless City" (the highway) and "The Green City."

The theme was how to build a city and make it livable—to eliminate slums and to bring living conditions to those who were slated to do the rough work of the world. Much was shown of the work that has been done toward making the world a better place in which to live; enough was shown to remind of what has been suffered and is being suffered where the slum clearances have not yet been effective.

A couple of thoughts crowded to the top while we were looking on scenes of alternating squalor and parklike backgrounds, the old way and the new way: "The City" was made possible through the sponsorship of the Carnegie Foundation, provision for which was made by the late Andrew Carnegie, a most praiseworthy act. It will go far to remove the grudge that may have existed in many long memories over the occurrences that piled up at Homestead at the time of the tragedy in that town—at a period when slums were known and only known and homes in milltowns with parklike backgrounds were undreamed of.

There is another thought: Giving Hollywood first-class contact with a picture that is founded on fact and not on love interest as that love interest appeals to Hollywood. Could it be possible this may have been what was in the back of Walter Wanger's mind?

Nevertheless Hollywood is going a distance in this same field, that of the documentary. But it is in the field of the shorts, just now in a sort of eclipse, due to the double feature.

When programs get back, if they do get back, on a basis of one feature and several shorts, then will arrive the day of the documentary on the theatrical screen.

EDWARD ELLIS in the leading part of RKO-Radio's "Career" makes a mighty bid for the added regard of picturegoers. It is reminiscent of the same man's success in "A Man to Remember," produced within the last year or so by the same company. Temptation always is strong to declare the more recent of two productions outweighs the other. There is no doubt in the mind of this reporter that that is true in the present case, true by reason of the belief that Ellis's part in "Career" is the more powerful drama. And that is a strong statement.

The story is a simple one of a small town in Iowa, peopled by just folks and minus men or women of real wealth or self-exalted position. It may be after all the story was not so simple. It begins a generation before the formal opening—

when a "smart" man of the village wins in marriage the hand of a woman sought by another, less smart but steadygoing and honest. Although the woman has died she lives on in the homes of the two men, openly in one, unmentioned but nevertheless poignantly present in the other.

It is around this woman of whom not even a photograph is shown that the story rises to unusual heights, with the chill of stark melodrama alternating with scenes of deeply moving tragedy. The makers of the production have the courage to give it an unhappy ending or at least minus a hundred percent happy ending, which is much nearer to life in the raw than we usually find it on the screen.

Janet Beecher portrays the character of the woman who accepts the man who was defeated a generation before. She is the mother whose son in the end is rejected by the daughter of the woman now dead. She is an accidental listener to the conversation between the father and the son following the rejection, a talk in which for the first time the mother learns where she stands and where she has stood for a quarter century in the affections of the father.

The sequence will serve for a model in writing, direction, interpretation and presentation on the screen.

Frank Redman, A.S.C., photographed,

Glennon Wins Again

FOR the second time within four months Bert Glennon, A.S.C., was accorded photographic honors for June by the Hollywood Reporters poll. The production was Twentieth Century-Fox's "Young Mr. Lincoln." Its predecessor was Walter Wanger's "Stagecoach," which took the nod in March.

The photographic strength of the picture grips in the opening sequences. One is where Fonda as the young Lincoln walks with Ann Rutledge along the shores of a river. The walk is unhurried, giving the spectator an opportunity to drink in the charm and the beauty of the scene. It impresses the reviewer—it accomplishes what it is no simple matter to do: to notify the observer that here is photography out of the ordinary.

There are outstanding shots that steadily follow through the picture, with another unusual one at the finish.

Four other awards went along with Glennon's. One was for the best picture, Director John Ford got another; Henry Fonda, who played the title part, was given his, and Alice Brady was awarded another for the best performance by a supporting actress.

and Vernon L. Walker, A.S.C., was responsible for the special effects. John L. Cass recorded. Phil Stong's novel was adapted by Bert Granet, with the screen play written by Dalton Trumbo. Leigh Jason directed: a craftsmanlike job.

THE motion picture of today has been more than forty years in the making. In "The Movies March On" (March of Time, Issue 12 of Volume 5), is shown the inception and the gradual development of what in the beginning was not taken overseriously. To all who admire screen fare there will be interest in this number—rising in rapidly increasing degree according to the period of time that may be carried in the memory of the observer.

The historical review is made possible through the assistance of the Museum of Modern Art, the home of which is at 11 West Fifty-third street, New York. This new institution has been made possible through its founding in 1935 by the Rockefeller Foundation and by the help since accorded its Film Library by the motion picture industry as a whole.

In the library's vaults are millions of feet of film, news reels and features ranging in length from the early single reels to the present day features. In the beginning the length may have been fifty feet or even less. This writer recalls in 1915 in San Francisco being shown an old-time ledger by a veteran exchange man in which any part of ten or a dozen subjects were included in a single reel.

The number under discussion makes an early start. It begins with May Irwin and John C. Rice in "The Kiss" of 1896. It was shown in vaudeville. There were no picture houses at that time. To say that it made a sensation is expressing a situation mildly. In New York it was town talk, and in the comparatively few places that also saw the relatively hot number it also must have done the same. The germ of censorship was planted at that time.

Much water went under the bridges in the following seven years, but the next picture was of the vintage of 1903, "The Great Train Robbery," by Edison, directed by Ed Porter. The next jump was of nine years. It is of a still of Mary Pickford and Lionel Barrymore and a hat, with the year of 1912. That must have been "The New York Hat." Later we see Valentino, a fine picture of that young man, splendidly photographed and the film in excellent condition. That was "The Four Horsemen."

Then the films and the players come fast. The players shown are among others William S. Hart, Charlie Chaplin, Ben Turpin, Marie Dressler, Mabel Normand, Lillian Gish, Theda Bara, Douglas Fairbanks, Greta Garbo, John Gilbert, Renee Adoree, Al Jolson in one of the first sound pictures, Will Rogers and Paul Muni.

The editors have selected for "The Big Parade" a sequence which for downright melodramatic power always has remained
(Continued on Page 382)

White Border Screen?

DURING the recent convention of the Society of Motion Pictures Engineers a most interesting suggestion—revolutionary if it should become accepted—was made by John G. Capstaff of the Kodak Research Laboratories. Briefly, it was that an illuminated white border be substituted for the conventional black border around projection screens.

According to Capstaff, such a practice would give the projected picture better and more convincing tonal values. Under present conditions, he points out, it is difficult to make low-key scenes, and particularly night effects, convincing on the screen.

This is due to the fact that the darkest shadow area reproduced on the screen, even though it represents the maximum density obtainable in the positive print, is still not perfectly opaque. Some light

is transmitted, and in addition the screen in most theatres will also reflect at least a small amount of light from the lamps illuminating the auditorium.

In direct contrast to this is the almost perfect light-absorption of the black velvet border surrounding the screen. Compared to this, the blackest shadow obtainable on the screen must necessarily appear grayish and relatively luminous.

This would not be the case when an illuminated white border is used. The border, he points out, should not be illuminated brightly in relation to the clear or highlight areas of the projected picture, but only to such an ex-

tent that the border will appear slightly lighter than the darker shadows of a normal picture.

Darkens Deep Tones

In practice, he states, relative brightness of sixty to one seems best for monochrome, and thirty to one for natural-color projection.

This lighter border has the effect of apparently darkening the deepest tones of the projected picture, as they become the darkest area scanned by the eye of a person watching the screen.

To demonstrate this theory, Capstaff projected several reels of black-and-white and color film, including toned monochrome scenes, at the Chinese theatre in Hollywood. Reels from such productions as "Hound of the Baskervilles," "Ice Follies," "Dodge City" and a Walt Disney cartoon were projected with a luminous screen border, which in

A low-key scene from "Hound of the Baskervilles" with a white border similar to that suggested by Capstaff. Illuminated border used in actual demonstration was somewhat grayer than this illustration appears.



this case was switched on and off several times in each reel, to furnish a direct comparison of the effect of the dark and light screen borders.

The first impression gained from this new technique may be compared to that of looking at a painting in a wide gilt frame. This viewer, at least, found himself subconsciously looking for the scroll-work design of an old-fashioned picture frame.

However, this impression passed after a few minutes, as both mind and eyes became accustomed to the novelty of the light border. It is distinctly unfortunate, however, that Capstaff did not find it possible to present a complete production by this method, so that those present could determine more accurately whether or not the illuminated border distracted their attention from following story continuity.

As it was, presenting comparatively brief excerpts from several productions, and with the added necessity for switching the border illumination on and off several times during a reel or sequence, for purposes of comparison, this could not be judged with any accuracy.

Border Unnoted

In response to questions on this point, however, Capstaff stated that in tests made at the Kodak laboratory in Rochester, and in the Eastman Theatre in the same city, where a complete program was presented with the illuminated border, the average viewer was so completely unconscious of the border that, when questioned, most of them would ask, "What border?"

Technicians, he said, after the first surprise at the reversal of conventional practice, generally expressed themselves favorably, increasingly so as they became more accustomed to the effect.

Actually, he said, a very narrow black border is interposed between the picture and the illuminated border, simply to "clean up" the projected aperture. This consists of a rectangular frame of narrow black velvet, apparently two or three inches wide for the 24-foot picture shown at the Chinese. During projection it is imperceptible.

The Chinese theatre has an unusually large proscenium, and a screen somewhat larger than that used for the grandeur pictures of a few years ago was employed. The actual projected picture was over 24 feet wide; at least as large, if not actually larger, than the picture normally projected in this theatre. Yet the effect first gained from the relatively broad, luminous border was that of a picture smaller than usual.

Border Matte as Slide

The mechanics of the system are simple. The border is produced by projecting a stereopticon slide in which the center or picture area is matted out, while the edges remain clear. The matted area is of course matched to the area covered by the motion picture projector, so that the picture is projected

on a portion of the screen upon which no other light falls.

The slide used in the experiment was made very simply by using the stereopticon projector as a camera, and photographing the rectangle of light projected on the screen by one of the projectors, running of course, with no film in it. The resulting negative was then bound as a slide and furnished the necessary matte for border projection.

The intensity of the border could be controlled by raising or lowering the intensity of the stereopticon projection lamp. The narrow black border was easily applied by fastening the black velvet ribbon to the screen, utilizing the perforations in the sound screen, so that no permanent change was made in the screen itself.

In response to further questions, Capstaff stated that he had experimented with the use of colored illumination for the borders, for both monochrome and color.

There was no advantage from using

colored light to border monochrome pictures, and a definite disadvantage in using it for colored pictures, as changes in the color scheme of the projected scene might bring sudden and undesirable color conflicts between picture and border. White light, of relatively low intensity, he said, had been found best.

He also mentioned that the idea had found such acceptance with the photographic and color technicians at the Kodak Park laboratories that several had adopted it for use in review rooms and in home projection of 16mm. and 8mm. home movies and minicam slides.

The demonstration given, he pointed out, was strictly a private exposition of his own ideas, and should not be interpreted as an official demonstration or recommendation by either the Eastman Kodak Company or the Society of Motion Picture Engineers, but instead as an individual's experiment presented at a time when he could easily obtain the reactions of a group of the world's leading motion picture technicians.

JOHN BOYLE ON LONG MOTOR TREK OVERSEA

JOHAN W. BOYLE, A.S.C., is away on a long trek. He sailed from New York June 21 as a member of the Trans-Asia Inc. expedition, at the head of which is Lawrence C. Thaw, one who when not on exploration bent is a stock broker in New York. In the company also is Mrs. Thaw, as well as an M. I. T. man who will function as radio engineer and consultant in the many difficulties that may arise. There will be a crew of six men.

Thaw is an experienced traveler. In fact, it was at the head of a large expedition in Africa that he and Boyle first met, the latter at the time being at the head of a camera crew for an English studio troupe making a picture in the Dark Continent.

The unit consists of a trailer specially built by General Motors at a cost of \$80,000. It is air-conditioned and has specially designed generators and lights. There are two Chevrolet trucks. One mobile unit has a two-way short wave radio by means of which conversation may be maintained up to a distance of eighty miles. Then there will be a Buick sedan with a special trailer.

The itinerary includes New York to Paris, through France, Germany, Austria, Czecho-Slovakia, Roumania, Turkey, Afghanistan, Persia, India, the Himalayas, and thence to Bombay. It was planned at the beginning of the trip to dispose of the equipment on arrival at Bombay and to fly to London, from which point steamer would be taken for New York.

According to the itinerary, the party will be seven or eight months on the trip. Many supplies will be carried from the start, while others will be picked up en route. It will be this way with film, of which a hundred thousand feet of Eastman has been tentatively set for exposure. Already planned for use will be Plux X, Background X, Super XX and Zelcras bipack.

Exposed film will be handled in New York and Hollywood. As it is ready for shipment the black and white will be airmailed to New York and the color to Hollywood.

Camera equipment will consist of two Mitchells designed for black and white and for bipack, with an Akeley and two Eyemos. Of still cameras there will be four Contax and two Graflex. There will be a half dozen light meters, divided between Weston and General Electric.

Rather an extensive motion picture program has been outlined. Several contracts have been executed for commercial shorts, among these being from Standard Oil, Eastman Kodak, Union Carbide, Ethyl Corporation and others. Then there will be commercial shorts as well as the securing of background shots for studios.

En route the members of the company will be guests of prominent men in many countries. Mrs. Thaw does not intend so far as she is concerned the trek will consist of any picnic. She plans to carry out her usual practice of taking care of scripts and helping on story work.

HOLLYWOOD FORUM HAS BUSY FIFTH ANNUAL

THE fifth annual educational conference of the Hollywood Motion Picture Forum was held July 14 and 15. It exceeded in attendance and general interest all of its predecessors. The conference headquarters and registration were at the new Review Theatre, 1455 Gordon street, Hollywood, which is under the control of the Academy of Motion Picture Arts and Sciences.

The sessions covered three days and two nights. The top note was sounded on Saturday night at the Victor Hugo Cafe, Beverly Hills, the occasion being the annual dinner. Vincent P. Maher, deputy superintendent of Los Angeles schools was master of ceremonies. Vierling Kersey, superintendent of Los Angeles schools, was the speaker of the evening and added to the prestige he established at the parallel occasion a year ago.

Other speakers who were closely followed were Don Gledhill, executive secretary of the Academy, and Marie Seton of England, an authority on documentary films.

Novel Pre-Conference

On July 12 under the auspices of the Motion Picture Producers and Distributors and as a compliment to members of the Forum, there was a pre-conference studio-theatre program at Warner Brothers Hollywood theatre. Max Steiner demonstrated the scoring of motion pictures in a fashion never attempted before.

As an example, there was thrown on the screen the final sequence of Bette Davis in Warners' "Dark Victory." It was shown without sound or music. Then the same scene was shown with sound but without music. Then finally it was put on the screen in the same fashion as formally in the theatre.

The same routine was then followed with "Dodge City." The object was to show to the audience several things. One perhaps was to illustrate the barrenness of the performance without the accompaniments of the additions that have been made to the screen performances of the past ten years. Another was to demonstrate what the musicians faced when the picture was sometimes without warning placed in their laps

and they were informed as to the number of hours they would be allowed before the picture was to be handed back.

Another was to indicate how the musicians plodded until they identified the tempo of the subject. A striking example of this was the burning train in "Dodge City" and the demonstration of the musicians' achievements in "fitting" the music to the rapidly moving events.

Audience Sits Tight

The audience remained in its seats for over two hours and it was entertained every minute. So far as known it was the first time such a demonstration had been given. It proved to be one of the highlights of the conference.

Approximately thirty pictures were shown during the conference. Projections were held at the Academy Theatre in North Gordon street, at the auditorium of Electrical Research Products, Inc., 6601 Romaine street; Bell & Howell Studio, 716 La Brea North avenue, and at the restaurant on Saturday evening.

Among the pictures shown were:

Friday, July 14—"How Motion Pictures Move and Talk," Filmosound Library; "The Sea," Horace and Stacy Woodard; "The Truck Farmer," ERPI Classroom Film; "Marshland Mysteries," Robert Unseld, Bell & Howell Film, first release. Eastman Kodachrome process print.

Discussion Leader: Cline M. Koon, U.S.C. Instructor, Visual Education. Senior Film Specialist, U. S. Office of Education.

Auditorium of Electrical Research Products, Inc., 6601 Romaine street, corner Seward, in measuring devices, illustrations of control techniques in sound recording, and screening of film to show most recent studio sound recording technique. Presentation by Clifford W. Smith, vice president, ERPI.

"Hunting Walrus," B & H Lecture Film, Commander MacMillan; "Electrostatics," ERPI Classroom Film; "Statue Parade," English Documentary Film, Paul Burnford, Strand Films, London; "People of Mexico," ERPI Classroom Film; "Modern Electric Brooding," Ellis

Yarnell for Southern California Edison Company; first release Kodachrome sound print.

Discussion Leader: Dr. V. C. Aranspeiger, ERPI Picture Consultants, New York.

"Death Valley," Color-Sound Film by Jay Dresser; "Nine Days a Queen," Gaumont-British Production; "King George and Queen Elizabeth in the United States," Castle Film; "Cartoonland Mysteries," how cartoons are made, Universal; "The River," United States Government documentary film.

Discussion Leader: Dr. Wm. J. Klopp, supervisor of secondary education, Long Beach city schools.

Film Clinic

Saturday, July 15—"Safeguarding Health at Nation's Gateway," Frith Films, Hollywood; "Agricultural Ants," Stacy and Horace Woodard, Hollywood; "Metal Crafts," ERPI Classroom Film; "California Wild Flowers," Color, Howard Jones; "Clocks and Time Pieces," Fred W. Orth.

Discussion Leader: Fred W. Orth, Instructor Visual Education, U.C.L.A.

"Think!" Junior High Production, Dr. Helen Clifford, Long Beach; "Balinese Dancing" (Oriental Journeys) Harriett Huntington; "Congo Curiosities," Paul Hoefler, explorer-producer; "Free to Roam," Paul Burnford, Strand Films, London; "Mexico," Miss Marie Seton, editing of excerpts from Eisenstein Documentary.

Discussion Leader: Wm. F. Kruse, Director of Films Division, Bell & Howell Company, Chicago, Ill.

Excerpts from "The Great Commandment," Cathedral Films, Rev. James D. Friedrich. "Colorful Latin America" excerpt, Capt. G. Allan Hancock. (Narration by Granville Ashcraft, Research Associate, Allan Hancock Foundation, U.S.C.); "Majesty of Alaska," Infra-red cinematography, Father Bernard Hubbard, courtesy of Wilson Leahy, Agfa Film. March of Time excerpts, "International Munitions Ring" and "Ghost Town Saves Itself," Initial 16mm. release, courtesy of Boyd Rakestraw, University of California, Extension Division, Department of Visual Education. Disney Color Cartoon, "Pied Piper of Hamelin," 16mm. print, courtesy of Donald Reed, Ideal Pictures Corporation.

One of the unannounced pictures that made a hit with two audiences was "Adventures of Chico," film in sound and running 60 minutes. It was produced and directed by Horace and Stacey Woodard. Another subject that was rare in character was Father Hubbard's most aptly named "Majesty of Alaska." Exposed on infra-red film, the photography was in a class by itself. The film brought out all the majesty of Alaska.

The sessions were called to order by President Bruce A. Findlay. They were closed by the newly elected executive, Fred W. Orth, instructor visual education, U.C.L.A.

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Cameraman

His Answer

Is Bound To Be

EASTMAN

PLUS X

PANCHROMATIC

NEGATIVE

J. E. BRULATOUR, Inc.

— DISTRIBUTORS —

DEBRIE BUILDING RUGGED 16mm. REDUCTION PRINTER

By R. FAWN MITCHELL

Manager, Andre Debie Inc. of America.

AS IS well known, the use of 16mm. film for industrial and educational purposes has increased with extreme rapidity, especially in the last few years. Today there is hardly a large school, church or business meeting which does not have its 16mm. movie show with more or less regularity.

Some idea as to the extent of industrial use of 16mm. can be gathered by the increasing number of concerns producing pictures for such purposes. It is self-evident that the rapid growth in the use of such film necessarily imposes problems in the laboratory where such films are processed.

In general it is the accepted practice to photograph original subjects on 35mm. film and print them by optical reduction on to 16mm. Not only does this give a decided gain in quality, but it also permits 35mm. prints being made in the regular manner if and when desired.

Accelerating Speed

An additional factor to be considered by the laboratory is the growing extent to which regular theatrical productions are being printed by optical reduction on to 16mm. for library purposes. Historical films, particularly selected excerpts thereof, have been found of great value in the educational field. It is obvious that such applications are going to increase even more in the future.

Because of the physical dimensions of the 35mm. and 16mm. apertures with respect to the overall dimensions of these respective films it is possible to print 35mm. pictures by optical reduction only by means of a step type printer.

Up to now the average speed of a step printer and particularly a step reduction printer has not usually been greater than 30 or 40 feet a minute (on the 35mm. side).

This, naturally, is considered too slow in comparison with the speed at which modern 35mm. printers normally operate. It can be seen, therefore, that unless some adequate means of increasing the effective printing output of the reduction printers used in the laboratories is available this speed limitation would prove a "bottle neck" in the ultimate set up.

For some time now the internationally known "Etablissements André Debie" of Paris have given extended consideration of this problem particularly as its worldwide affiliations brought it into touch with the growth of 16mm. reduction printing in many scattered countries of the world.

The company has designed and built

a very rugged and precise reduction printer of outstanding qualifications. This printer is made so ruggedly that it has been found entirely satisfactory to operate it at a speed of 64 feet a minute (on the 35mm. side).

Output Doubled

In addition to this a recently improved achromatic beam splitter is incorporated in the design. This beam splitting optical unit is designed to produce two absolutely identical 16mm. prints in one operation from a single 35mm. negative so that the effective output of the printer is doubled.

Considering that the printer is running very much faster than any known equivalent apparatus available, the total effective output of approximately 128 feet a minute, figuring equivalent in 35mm. footage, is a remarkable gain when compared to the normal 30 or 40 feet a minute output of printers heretofore employed.

In addition to turning out this vastly increased output every precaution has been taken to insure there being no loss of quality. One of the main reasons why such extreme quality is obtainable despite the gain in output is due to the use of a combination gate releasing mechanism and pilot pins.

The printer is normally equipped so that the pressure gates of both the 35mm. and 16mm. heads are retracted during the time the film is being moved past the aperture; these gates, however, close during the printing portion of the cycle to insure that all films are in perfect contact with their respective aperture plates.

For a nominal extra cost the printer can be equipped with pilot pin registration on both 35mm. and 16mm. heads.

Can Be Made Adjustable

A unique feature of the Debie pilot pin mechanism is that it can be made adjustable. In other words the 35mm. pilot mechanism can be made to move slightly up or down to compensate for any range of negative shrinkage normally encountered.

The adjustable pilot pin feature and the newly developed achromatic beam



One of several typical Debie installations in this country.

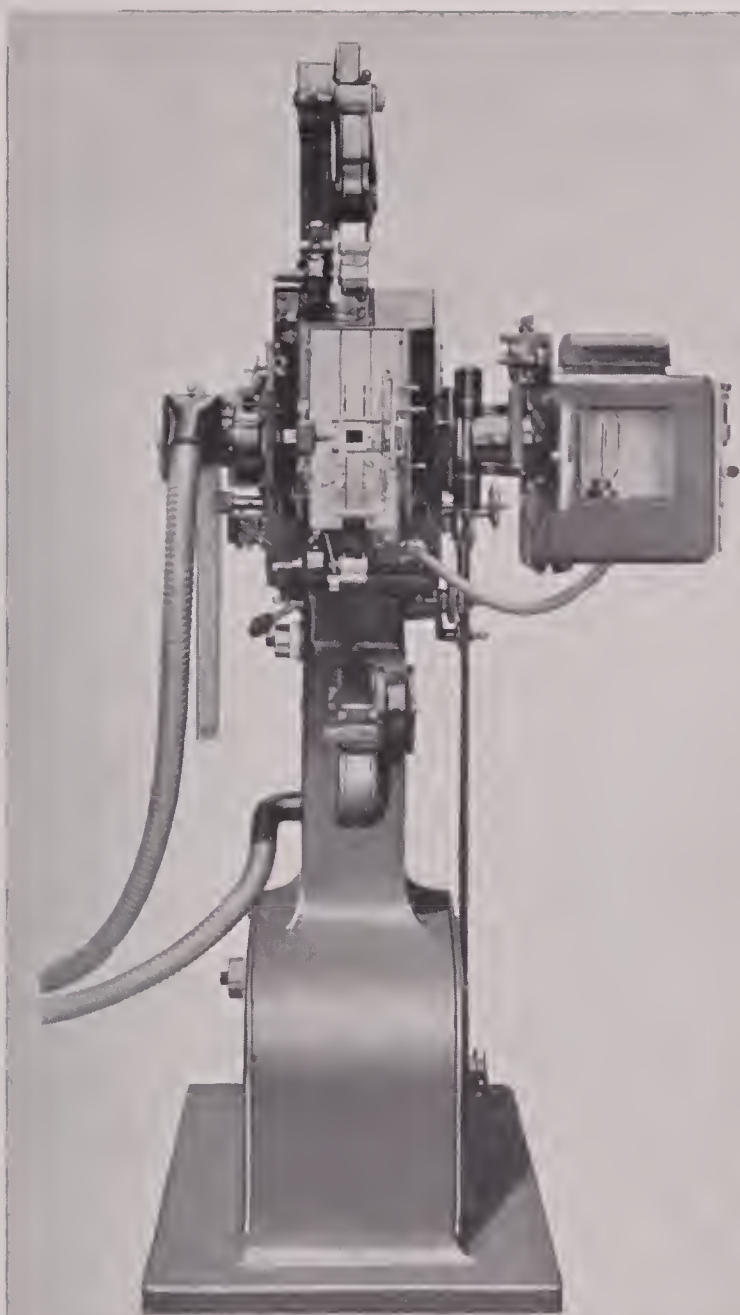


Figure 1. Debie 35mm.-16mm. picture reduction printer showing 35mm. negative side, with lamphouse door opened to show lamp. The lamphouse is equipped with a safety red glass mechanically interlocked with handle so no white light can escape when lamphouse is swung around for threading. Part of optional contact unit for Debie automatic light change is shown at left.

splitting unit is attracting considerable attention in connection with the possibilities of reducing color films to 16mm. on an economical laboratory basis.

Ordinarily, the adjustable feature on the pilot is not recommended for the 16mm. head because positive stock has been so standardized that fixed pilots are all that are needed.

Among the other features of this printer may be noted the ease with which the 35mm. and 16mm. apertures plates and gates may be removed from the main housing to offer convenient access to the mechanism. Also the entire top of the printer can be removed to allow convenient access to the optical unit,

should that be desired at any time. Another good feature of the new printer is the manner in which the main driving motor is mounted in the inclosed base. In this base is also mounted a little motor driven blower with an integral air filter which provides an adequate supply of air to cool the lamphouse and also to blow against the 35mm. aperture to remove any dust that might accumulate there.

Resistance Type Favored

While this printer can be equipped with a special automatic light change designed for the making of a large number of prints from one negative, the preference of most users, in this country at least, seems to be toward the use of the conventional and familiar resistance type of light change board. These boards are operated from standard notches in the negative.

If necessary, the printers can be equipped with the contact boxes in a different position to take care of negative notches made for any other system.

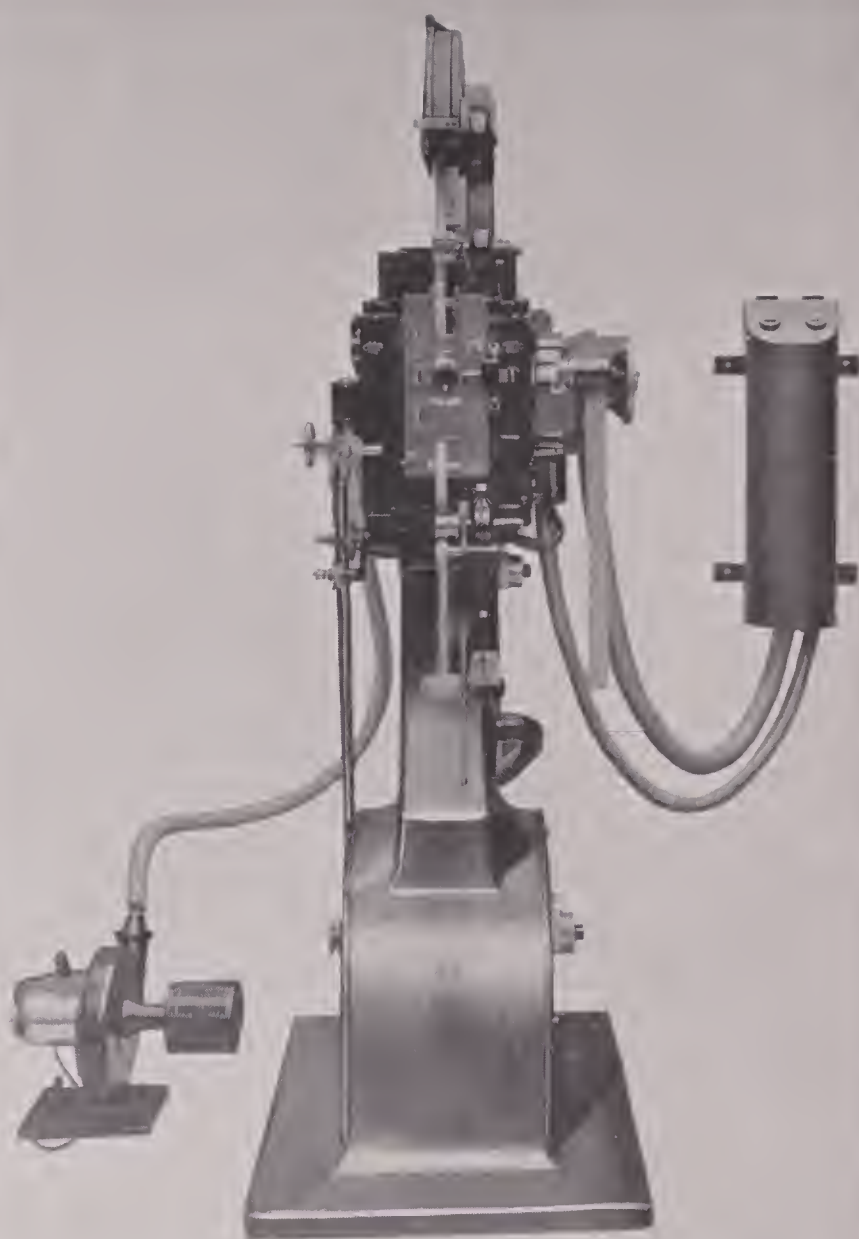


Figure 2. Debie 35mm.-16mm. picture reduction printer showing machine threaded with only one 16mm. strip. (Either one or two 16mm. positives can be printed at one time as required.) This illustration shows the optional Debie automatic light change unit (at right), and also shows the blower removed from base and cover removed from belt to show method of drive from motor in base.

Already these printers have found application in several of the big laboratories in this country and it is believed that the unusual features incorporated in the design together with the combination of quality and production of their performance make this printer one of the major pieces of equipment available to the modern 16mm. laboratory.

The Debie line, in general, is most comprehensive and includes over a dozen types of developing machines and more than twenty kinds of printers for any conceivable purpose. Of the special printers the superimposed title, bi-pack and Dufaycolor printers are the better known.

PROVED DEPENDABLE

THE proving period for Eastman's new negative films has been left far behind. With their special emulsion qualities reinforced by typical Kodak dependability, *Plus-X*, *Super-XX*, and *Background-X* are firmly established as successors to other notable Eastman films for the motion picture industry. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X

for general studio use

SUPER-XX

for all difficult shots

BACKGROUND-X

for backgrounds and general exterior work

PLAN FOR FILM WHEN FAMILY TRAVELS

By JAMES A. SHERLOCK
Sydney, Australia

Article Three



The still camera caught a tense moment approaching.

FAMILY films can be made interesting if a little planning is done. With this type of film it pays to go to the trouble of writing a little scenario or story of the particular phase of family life that is to be recorded.

If the whole family go into conference and discuss this matter the cameraman can be sure of individual support from the various members of the family. In fact they can easily become as enthusiastic as the cameraman if they are consulted beforehand.

Filming the new arrival is best started with a shot of a newspaper announcement of the birth, followed by mother and the infant in the hospital, a close-up of mother; one of the babe; then the babe being bathed and weighed.

Don't Miss Birthdays

Do not use high powered lights on the infant; the diffused light from a window or verandah and a reflector together with a roll of fast film will do the job. If the mother is not well all this can be done at home later.

Let the cine camera record the life of a child in a candid manner, dirty hands, dirty face, it's first pair of rompers, it's first toy, but, most important, it's birthdays. There is no need to include titles such as—"Johnny at One Year Old." Each birthday cake with the lighted candles will be sufficient.

Photographing children is a job for one who likes them. Catch the child as it is learning to walk, with its little halting steps filmed from a very low camera angle.

If the child is hard to keep in the one place, set the camera up in the

shade and have a dish of water with a new bubble pipe and some soap on the set. When all is ready, and not till then, bring out the child.

If it is too young to use the pipe have an elder child blow the bubbles. This should be sufficient to hold the attention of any kiddie for a few minutes.

Take in Whole Family

Of course Xmas is the best time to catch the child in a happy mood, but why not include the whole family in this film.

Commence with the preparations for the festivity, then the stockings being hung up, a clock showing the time to be 5 o'clock, a closeup of milk bottles being placed on a doorstep, then the children with their toys. From this on try to catch the atmosphere of the day as the family enjoy themselves.

Conclude the film with a child asleep in bed surrounded by a few toys. Fade out here. Again use plenty of closeups, little bare feet in the morning, the turkey (if any), Xmas pudding and soiled plates, all things that suggest the Xmas feeling.

Plenty of Closeups

American Cinematographer from time to time publishes short scenarios which are easy to follow and may be used to feature the family in a film. After making one of these it will be found simple to write one yourself, but do not forget to consult the family beforehand and get all its members on your side.

If a holiday is to be filmed remember to shoot plenty of closeups so that the

film later may be edited as a continuous story. Start with a closeup of advertising folders of your holiday resort, bags being packed, luggage being loaded on the car, train or boat.

If the means of transport is a car, shoot a few feet of film showing the gas tank being filled at the service station, then a few feet of film showing the car moving off—this will suggest departure.

If it is a train or boat on which you are traveling, expose a few feet of film as the bags are being handled on the station or wharf. Then if it is a train shoot a yard of film as a similar train pulls out of your home town.

In the case of a boat be sure to get the name of the boat in a closeup, then people boarding the boat, then a few feet of film of your friends waving as the boat leaves the wharf.

When you get the habit of photographing such things as road signs (finger posts) names of railway stations, names on post offices, the front page of local newspapers, etc., you will find it an easy matter to edit your film in a story sequence that will be interesting with the addition of only a few titles.

Story value is just as important in an amateur film as it is in a professional short.

Use Your Party

When filming the scenic portion try to include some persons in the foreground. If you are traveling with company have them walk into the scene, stop and look at the point of interest, then move out of the picture. When

they do this, photograph this object of interest.

When you edit this section you cut the film where they stop, add the scene you took without them, then join it to the frame where your friends commenced walking out of the picture. By this means you can include many closeups of your traveling friends, street scenes, buildings, statuary, streams, bridges, etc., in such a manner that each scene will be interesting.

Even a best friend will chafe at having to wait till a cameraman erects his tripod before taking a holiday shot.

Under these conditions the cameraman is advised to use any support he can find handy, the side of a tree, a post, a seat, a rail, the car, anything that is rigid will do. Do not wobble the camera while it is running or the background of your picture will be jumpy. It is very tempting to panoram.

If you cannot resist this temptation, move the camera very slowly and finish on the most interesting object, but when

possible avoid this technique, use a succession of shots taken with different lenses of the most interesting parts of the proposed panorama.

Photograph Natives

If you are visiting a foreign country be sure to include a few shots of local people at work and at play. Also any vehicles which seem strange to you. If people have gone out of their way to assist, leave them in a happy frame of mind so they will help the next cameraman that comes along.

Most architectural subjects are inclined to appear cold and uninteresting unless a good camera position is found. A branch of a tree, a doorway or arch can be used to frame the picture, thereby adding to its pictorial value; this may seem unnecessary to the beginner, but it increases the depth of the picture and makes for better picture composition.

Long shots are not as important as closeups where detail and texture is shown.

To increase the number of exposures taken, a rotating disc moving counter-clockwise is arranged in front of the rotating lenses. This subdivides one exposure into 2, 4 and 8 narrow strips and thus permits the increase of the number of exposures taken to a maximum of approximately 80,000 per second.

Pictures taken by a combination of the stroboscope and an ultra-microscope were shown at the exhibit that illustrated its uses for scientific and technical work, it was reported.

Among the pictures shown was the movement of warm air circulating in a heated room taken without the aid of smoke. This was done by means of the mirage effect of different temperature air strata.

The discharge of electric sparks over insulators and photographs of flying bullets hitting suspended steel wires were also shown. Pictures of flying bullets clearly showed the air waves in front of the bullet and the movement of the severed wire, according to the report.

GERMAN CAMERA TAKES 80,000 SHOTS A SECOND

AN all-electric slow-motion camera capable of taking 80,000 pictures a second has been developed by a large German electrical manufacturing concern, according to a report to the Department of Commerce from the office of the American commercial attache at Berlin.

Motion pictures produced by the camera were recently exhibited in Berlin before a group of invited guests. Known technically as a "stroboscope," the

camera is designed primarily for technical and scientific research.

Although other methods in use take individual exposures at a faster rate, the new stroboscope actually takes many more exposures a second through the subdivision of each individual exposure.

The basic principle of this stroboscope is a disc of rotating lenses that eliminates the shutter. Exposures are actually made only in the status of "optical equilibrium."

Movie Fax Now House Organ for Hollywoodland Studios

Hollywoodland Studios, South Gate, Cal., specializing in various types of film for the amateur movie fan, announce a gratifying acceptance of its house organ, the first issue having appeared in March of this year.

"We decided to produce a small house organ for the benefit of our mail customers," explained Ben Doty, owner of Hollywoodland Studios. "We captured the interest of our customers in offering sizable prizes for a permanent name of our house organ, which is 'Movie Fax,' it being suggested by L. J. Hark of Charleston, W. Va.

"Departments includes an informative front page of suggestions about making better amateur movies, Questions and Answers section; What's New section, special offers of merchandise, and monthly prize winning scenario. Interest in our amateur scenario division is growing. The publication is sent free of cost to all our mail customers."

B & H Issues 100 Exclusive Copies of Monarch's Visit

A special 16mm. film presentation of the visit of Britain's King and Queen to America is being made available to only 100 persons throughout its worldwide distribution by Bell & Howell.

The three reels comprising this release contain the selected footage taken by ten cameramen at various stages of the journey. The films are mounted on three gilded reels contained in similarly gilded humidor cans. These, in turn, are housed in a library container.



A rugged bit of Australian shore.

BEAUTY and REALISM in COLOR

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**SNOW WHITE
PROJECTION LIGHT**

REALISM in the STUDIO

Realism, the ever present aim of the studio, requires that all colors be recorded on the film in hues and tone values corresponding to human vision. Carbon arc lighting gives this daylight realism to color photography. In monochrome, it combines added beauty with the fullest possible achievement of realistic effect.

NATIONAL CARBON COMPANY, INC.

Your patrons wish to forget that they are looking at a picture. The closer they come to feeling that they are watching living and breathing people, the better they are pleased. Color is growing steadily in popularity because it adds much to this feeling of realism. But snow-white light is needed to give color features their full value. Low intensity projection falls short of realism because the yellowish tint distorts color values.

Simplified High Intensity projection gives a snow-white light which brings out the full beauty and realism

of color features. It also supplies two and one-half times as much screen light as low intensity projection for the same power consumption. Black and white pictures, as well as color, are more effectively projected by this powerful projection light.

Should you still have low intensity lamps it will pay you to investigate modern, economical, high intensity projection, the light that pays its own way. Ask your dealer to show you how improved projection pays investment and operating costs.

Make your projection equal to that of any theater in the country.

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SHORT CUTS IN EDITING

ELABORATE equipment for editing is good to possess—but by no means always necessary. One of the best methods of which we've heard recently was described at a meeting of the Los Angeles Cinema Club. It requires some scratch paper, two pencils, a few dozen clothespins and a bit of string.

To begin, stretch the string between any two supports that may be handy. The backs of a couple of chairs will do. Place the clothespins where they will be handy.

Next, project your film.

As each scene goes through the projector, note down its description on a sheet of the scratch-paper, and give it a number according to the order in which it was shot.

Next, either at the same time or, if you prefer, at another running, renumber each of the scene notes in the order in which the scenes are to appear in the picture. This should be done with a pencil of a different color. We like red, but anything can be used just so it is distinctively different from the first numbering.

Rearranging Scenes

Then take the slips and arrange them along the string, clipped in place with the clothespins, in the order of the black pencil numbering.

Now you can begin to cut the film!

As you run it through the rewinds, break out each scene and attach it to the line in its proper place. When you finish this "breakdown" you will have all your scenes strung on the line in their original order.

But this order isn't necessarily the order they are to appear in when the picture is completed.

Here's where the red pencil lettering comes in.

The next step is to rearrange the scenes, with their identifying slips and their supporting clips, in the order of the red numbers. Now you will have your scenes strung along the line in their correct order. All you have to do is splice them together.

But wait a minute—this scheme doesn't seem to take care of the titles you haven't yet committed to film, or those added scenes you will have to shoot to fill gaps in continuity.

Oh, doesn't it?

When you are doing the red pencil numbering, you can make similar note slips as to those titles and missing scenes. Thus when you get to the point of splicing you will know that wherever you find a clip, a paper and no film, something is missing from your picture.

Note Necessary Scenes

For the first cut you can simply splice a bit of blank film into these gaps, and when the missing parts are available you can quickly insert them.

But this still doesn't solve the problem of knowing exactly where each of these additions is to go and which gap is to be filled with which.

Again, "Oh, yeah!" is the answer.

You can use two different types of blank film—one to indicate a missing scene, one to indicate a title. For instance, all of us who have been making movies for any length of time have a good lot of the ground celluloid leader Eastman used to use before the company standardized on its present white-coated leader.

The ground celluloid can therefore be used for, let's say, titles, while the newer white is used for added scenes. Or you can use plain positive film leader for one, tinted base positive for the other.

With a grease pencil or even an ordinary lead pencil you can write the number on this leader. The numbers will enable you to see which bit of added foot-

age is to go into the spot, while the type of leader will tell you at a glance whether it will be a title or a scene.

There is the idea in its pristine simplicity. In this form it involves a penny scratchpad, a dime's worth of clothespins, and a couple of five-and-ten-cent store pencils. You can use the string from the package for holding your scenes if you happen to be really thrifty.

But the same idea can be dressed up if you want to do so. For instance, you can permanently number the clips themselves to supply the black numbers, if you wish.

Use Big Carton

Then cement a bit of white celluloid (from old leader) on the clips to take the red-lettered numbers. The writing can be erased from this surface easily. And by doing so you can eliminate all the slips but the ones indicating missing footage, if you are averse to so much writing.

If you are one of the more particular filmers, such as those who dislike to have their film drag on the floor, you can add a cloth-lined bag or box to catch the film and protect it. A big cardboard carton, which almost any store will gladly give you, is excellent for this.

For the lining you can perhaps beg an old sheet from your better half—maybe even persuade her to snip and sew it into a bag for you. The mouth of this bag can be fastened to the carton with big safety pins, or if you want to be really stylish, fitted with a drawstring and tied in place.

Finally, since we are dressing things up, how about following the example of professional film editors and wearing a pair of light, white cotton gloves while you are cutting film? They won't restrict your freedom of motion, but they will eliminate finger-prints which have spoiled so many home movie scenes and splices.



Filmo 16mm. film splicer showing diagonal splice. Lugs fitting into perforation hold at proper angle.

FASTER COLOR FILM CUTS LIGHT A HALF



FOR the past six months the camera profession has known that a new, far faster film was available for Technicolor cinematography, and has wondered if the new film was bringing to color cinematography benefits comparable to those enjoyed by black and white since the introduction of Eastman Plus X and Agfa Supreme.

The Technicolor forces, however, have been reluctant to say much about their new film until it had been proved on actual production.

Very wisely, they took the position that no tests—no matter how exhaustive—can tell as much about a film product and its use as do the myriad problems of production.

In theory, color cinematography would stand to gain far more from faster negative materials than does monochrome. Every color process has faced the disadvantage of comparatively low film speed, due to the unavoidably heavy absorption of light by the color filters and beam-splitting devices necessary to produce the required two, three or more color-separation negatives.

"Wind" First

Lighting for natural color processes, therefore, has traditionally required abnormally high illumination levels, often to such an extent that there could be scant flexibility in lighting.

Any advances in film speed could logically be expected to minimize these difficulties. With the new, faster Technicolor film, the question was how much did the increase in speed do this, and

in what way was it being put to use?

The first production to employ the new film is the much-discussed "Gone with the Wind," which entered production late in January. Today, as the production nears completion, hundreds of thousands of feet of the new type negative have been exposed on action covering a wide range of dramatic and photographic moods.

Both Ernest Haller, A.S.C., and Ray Rennahan, A.S.C., codirectors of photography on the picture, are convinced the new film extends the technical and artistic scope of the process to a sensational degree.

A visit to the "Gone with the Wind" set confirms this opinion. To anyone familiar with the lighting technique necessary with the previous Technicolor emulsions, the change is amazing. Three things are immediately noticeable.

First, the average light levels used are vastly lower. Second, smaller lighting units can now be used. Third, properly filtered incandescent lamps can now be used beside the more familiar arcs.

In a word, the new film has to a great extent revolutionized Technicolor lighting methods.

Director of Photography Rennahan, who has seen and participated in every Technicolor development since the making of the first Technicolor production, seventeen years ago, confirms these observations.

"The new film," he says, "is three times as fast as the old film under artificial light, and four times as fast to day-

By the side of this Technicolor camera out in the open are, left, Ernie Haller, A.S.C., and behind him Ray Rennahan, A.S.C. This is the team that has recorded on film "Gone with the Wind" for Selznick-International. Photographed by Stillman Fred Parrish.

light. This brings color lighting to levels practically identical to those used in monochrome before Plus X and the other fast films came into use.

"'Gone with the Wind' involves a great deal of dramatic effect lighting, so it is hardly fair to consider that our lighting averages would apply equally to more routine pictures, where higher keyed, less dramatic lightings might be required.

Fifty Percent Less Light

"But I should estimate that for normal effects we have been able to use a keylight of around 250 foot-candles, sometimes, of course, going considerably higher or lower than this average, according to the requirements of the scene.

This compares very favorably with the pre-Plus X monochrome lighting standards which ranged between 200 and 300 foot-candles, according to the scene and the cinematographer. With the older, slower Technicolor film our own average would probably have been in the neighborhood of 500 or 600 foot-candles.

"In other words, this new film enables us to reduce our lighting levels by a good 50 percent.

"This means that we use not only less

light overall but that we can break our lighting down into smaller, handier units, affording greater flexibility, especially in lighting people.

"At the same time we are now able to take advantage of another technical development of the past year—the development of filters which correct incandescent light to match the same daylight standard of our arcs.

"This was actually accomplished some little time ago, but the exposure requirements of the slower film prevented us from taking full advantage of it, since where light of high intensity is concerned the arc is the most efficient light-source. The 'inkie' can be made in smaller, handier units than the arc, but the old film was too slow to utilize them.

Use Smaller Lamps

"Today, we can and do use the familiar Fresnel-lensed inkie spotlights of 1000, 2000 and 5000 watts: but, even more important, we can now use the smaller baby spots for precise lighting of faces in close ups, exactly as they would be used in black and white. Only the speed of the new film makes it possible to make effective use of such small units in color photography.

"The new film has naturally increased the scope of projected-background cinematography tremendously. Heretofore, except when we used the big triple-head background projectors, we were limited to relatively small background screens.

With the new, fast film we can use screens as large as those generally employed in monochrome, and with equal flexibility.

"Another important improvement brought by the new film is improved color rendition, particularly in the greens. Every color process has found green one of the hardest colors to reproduce faithfully, and it is an especial problem here in California, where the natural greens of foliage, grass and the like seem to have a somewhat rusty shade unknown in moister climates, such as Ireland, where I made so much of 'Wings of the Morning.'

"The new film has given us some beautiful greens on exteriors, which will be an asset to the completed picture, which as you know is laid in the South.

"The improved color rendition has also enabled us to make more extensive use of projected color in our lighting, getting warm-toned effects for lamplight and firelight, colder tones for moonlight, and so on. For some of these, we have projected the colored light only on the set, while in others we have used it on the faces of the players as well.

Better Definition

"The new film, with its finer-grained characteristics, also gives us considerably better definition. When this is combined with the constant improvements in print-definition the laboratory is always giving us, I predict that the final release prints of this picture will show really

noticeable improvements in color-print quality."

Rennahan's associate, Ernest Haller, A.S.C., who came to "Gone with the Wind" fresh from his notable monochrome achievements in "Dark Victory," is equally enthusiastic over the advances of the new film.

Years ago he had worked with the old two-color Technicolor process, and he had also made some of the very first tests of the newer three-tone system, so he came to the current production not only fresh from notable successes in monochrome with Super X, but with an active memory of the earlier requirements of the color process.

"I was amazed," he says, "to step into Technicolor production and find that instead of requiring immensely high light-levels it now permitted me to light very much as I did for black and white on Super X.

Less "Filler Light"

"In the old days, shadows were strictly taboo in Technicolor; you had to crowd in 'filler light' from every angle, to make sure that the shadows wouldn't vanish in inky blackness. Today it's different—you don't notice much 'fill-in' light here, do you? We don't need it any more than we do in monochrome.

"The shadow-speed of the film has been increased so that we can light much as we would for black and white, knowing that we will get, in color, the same shadow illumination we would under similar conditions in black and white.

"You'll notice another thing that is different from any previous Technicolor

Archie Stout Injured When Heavy Seas Tangle Towline

Victim of an unusual accident while working with his crew aboard a tug off Santa Rosa Island, filming rough weather shots for Paramount's Frank Lloyd production, "Rulers of the Sea," Archie Stout, A.S.C., has been under medical treatment for severe contusion of the left leg, just below the knee.

The mishap occurred while Stout was filming scenes of the *Dog Star*, an exact reproduction of the first successful transatlantic paddle steamer which Lloyd had constructed for his Douglas Fairbanks, Jr.-Margaret Lockwood-Will Fyffe nautical tale.

The tug, towing another craft, was thrown off her course by heavy seas. The towline swept across the afterdeck with tremendous force, sweeping Stout from his feet and all but carrying him overboard.

X-ray examination, following the cameraman's return to Hollywood, disclosed no broken bones, but the contusion was found to be so severe that Stout is expected to be partially disabled for several weeks.

lighting: we can now make about the same use of diffusion on our spotlighting units that we would in black and white. Up to now, about the only lighting units on a Technicolor set that have used much diffusion have been the broadsides.

"The spotlights that did the modeling on set and players were pretty generally kept clear and undiffused. But now, with the fast film, we can soften our modeling light just about any way we wish, to say nothing of using the softer beams of inkie spots, with or without diffusers, exactly as we choose. Any cinematographer can tell how that will improve the quality of the pictures we're putting on the screen!

"Using the smaller units we can now employ is another photographic advantage. With the old, slow film about the smallest unit we could use was a 65-ampere arc spotlight. Now we can light our closeups with filtered (and if necessary, diffused) 500-watt baby spots, just as we would in monochrome.

Will Please Women

"Whenever an established feminine star makes her first appearance in a color film the critics almost always exclaim at great length about the new personality color gives her.

Now that we have this fast film, which enables a cinematographer to use all the little tricks of precision lighting he has used in monochrome to glamorize his stars, I am sure that color is going to be more flattering than ever to the women!

"In other words, I like color photography with this new film. The film and laboratory engineers have at last brought color to the point where, except for the slight inconvenience of the larger, three-color camera, one can work with the same freedom that is the accepted thing in black and white.

At the same time, by adding color to whatever artistry his experience has made him capable of in monochrome, it will extend his artistic and dramatic expression far beyond the best he can do in monochrome.

"'Gone with the Wind' has not been an easy picture to photograph; it is physically a very big picture, covering an exceptional dramatic range. Doing this in a way that will measure up not only to the high expectations of the public, but to Producer Selznick's still higher standards of perfection, has kept all of us straining every effort.

"Yet color cinematography, especially with this new film, is such an expressive medium that I'm sorry to see the end of our work coming in sight. I don't know what will be my next assignment when I return to my home studio—Warner Brothers—but I would certainly rejoice if it could be another color production.

"Now that color has become more flexible technically, its artistic possibilities are so great one wants to keep on exploring them!"

Simplifying of Set Design Brings 'Production Value'

By Jack Otterson



Jack Otterson, supervising art director, Universal Studio

A PHOTOGRAPH of a friend or relative snapped in a smiling mood may be a characteristic expression and a technically good picture, but in the long run it is less pleasing than a simpler, non-smiling expression.

If you put that smiling portrait on the wall or desk top where you see it constantly, sooner or later that perpetual smile will become irritating.

We all of us have our "blue Mondays." At such times, looking up to see a portrait smiling fixedly out at you from its frame is enough to make you annoyed at the person pictured, even though it may be your dearest friend.

Appeal to Imagination

An unsmiling pose, on the other hand, is always sympathetic. When you feel cheerful you can imagine your friend is on the verge of smiling with you. When you feel blue, you can imagine him sympathizing. The picture thus serves as a background for your friendship and suggests mental impressions that match your mood.

A vital element of set design should be an appeal to audience imagination comparable to that of the serious-faced portrait. Within reasonable limits, the more any architectural style or motive can be simplified, the more effectively will the set serve as a sympathetic background for photographed action.

Every architectural style or period can be reduced to certain basic and simple characteristics. In seeking that elusive quality of "production value" which does so much to enhance the effect of the final picture, simplicity of design is a powerful means of conveying the richness of fine taste.

The value pattern of the paint used on the sets is a vital element in obtaining this result.

Early this year Joseph Valentine, A.S.C., in an article in *The American Cinematographer*, told how we had been able to develop a standardized range of colors for set painting. Four pastel colors are used: buff, old-rose, blue-green and blue-gray. We use each of these colors in four values, each ranging from a light to a medium light, a medium dark and a dark.

The basic color in the mixing of these colors is Van Dyke brown. Umber is an unsatisfactory pigment as a base, particularly unsatisfactory photographically. It is an earth color, literally made from dirt, and colors darkened with umber inevitably give a muddy color on the screen.

Use Less Light

In recent months we have gone through still further experimentation with these colors, and they have proved a tremendous asset. They may be pho-

tographed with a minimum amount of light.

Of these four colors the blue-green, which is a tone strictly on the green side, has proven to be the outstanding color.

At first thought it might seem that a set painted in only one color, though in varying values of that color, might be monotonous both visually and photographically. We have not found this to be so.

The effects that it is possible to obtain with the use of the varying values of one color are amazingly unlimited.

A soft, delicate sensation may be obtained by a subtle use of close values.

We may arrange a more sparkling, almost garish mood by the use of violent contrast of values. And this may further be enhanced by variations of surface textures including flat and glossy surfaces side by side.

Constant Photographic Values

The values of these particular shades have little fluctuation in photographic reproduction. The cinematographer going on a set with full faith in the color background of the set is thus relieved of a definite problem.

These colors are equally adaptable to exterior sets. Valentine has recently photographed an exterior for Deanna Dur-

bin's "First Love," which is painted entirely in shades of our standard blue-green.

Color is an optical sensation only determined in its relationship to surrounding color. These shades have an added asset. They are easily combined with one another in a harmonious pattern of color, and lend themselves most readily to the dressing of the set.

We achieve the most livable and lasting picture by the happy combination of simplification of form and color value.

Two Television Centers in This Country, Says Lubcke

Harry R. Lubcke, director of television for the Don Lee Broadcasting System of Hollywood, on July 10 addressed the western members of the Society of Motion Picture Engineers on the "Present Status of Television Throughout the United States."

"New York City and Hollywood are indisputably the present television centers, and there is every indication that they will remain so," declared Mr. Lubcke. "New York City, because of its great concentration of population and business activity, and Hollywood, because of its world leadership in the entertainment industries, thus qualify for the leading positions."

"Entertainment is the last ingredient which must be put into the television picture. Television production is the most involved and difficult activity yet known to the entertainment field. It requires continuous production of high quality entertainment. The usual output of a motion picture production unit is seldom more than a few minutes' running time on the theatre screen for an eight hour day of activity."

"It is believed that outside television pickup and educational demonstrations will be important factors in supplying television program needs. Upon this analysis, Thomas S. Lee, president of the Don Lee Broadcasting System, recently purchased the most modern obtainable three camera outside pickup equipments for station W6XAO. This will be delivered shortly."

RCA Designs Turntable for Reproduction or Recording

A portable two-speed turntable, which provides both recording and instantaneous playback of 16-inch records through any public address system when used with a recording attachment, has been announced by RCA Victor.

Specially designed for use with the new RCA Victor recording attachment, this deluxe precision-built instrument may be used for both high quality recording and reproduction of records ranging from six to sixteen inches in diameter at either 78 rpm or 33 $\frac{1}{3}$ rpm.

Compact and easily installed, it is finding many applications in schools, hotels, churches, theatres, advertising agencies, broadcasting stations and the many other institutions which today are opening new markets in the recording and commercial sound fields.

Backed by the company's forty years of experience in the fields of sound recording and reproduction, RCA Victor engineers have incorporated the latest advances in technical design and styling in the new turntable.

Powered by a heavy, constant speed motor, the instrument is equipped with a balanced rim-driven turntable and an improved high quality magnetic pickup which reproduces either from the center

of the record outward, or from the rim to the center.

Equipped with simple plug-in connections for any public address system, it has master volume and continuously variable tone controls. The instrument is housed in a neat carrying case covered with tough fabricoid.

Photography as a Hobby

Photography as a Hobby. By Fred B. Barton, member News Photographers' Association, Portage Camera Club, Cleveland Photographic Society. Illustrations (pen and ink) by Don Wootton. Harper & Brothers, New York and London. 1939. 144 pp. \$2.

Here is a book written by a man who loves his camera or cameras and who right in the beginning gets down to cases. He will not make for popularity in some quarters when he declares that thanks to the new fast films emphasis is going to be less on the camera you own and more on how you use it.

"The thing to remember is that only about 15 percent of your success depends on your camera; the 85 percent depends on what's under your hat," he points out.

The writer talks down high priced and many gadgeted cameras for those who have not had or will not have time and means to study them. In fact, in easy flowing style he writes interestingly and informingly of a large subject—and in common sense fashion.

There are eighteen chapters. Among these are talks devoted to the kind of camera that should be bought, to the necessity of seeing pictures, to composition and the meaning of it; the matter of a darkroom, of candid camera and enlargements, color photography, better home movies, pictures by artificial light, photography for women, making money with your camera, tying your camera to other hobbies—and your job, and holding down the cost.

The book is one that deserves better than merely being read. It should be kept at hand—for occasional reading and rereading.

British Newsreelers Concerned

British motion-picture producers are greatly disturbed over the proposal by the Chancellor of the Exchequer to increase the excise tax on motion picture film, Trade Commissioner C. E. Brookhart, London, has informed the Department of Commerce.

News reel producing companies maintain that if the proposed duty becomes effective they cannot continue to operate. It is contended that the tax will result in the complete ruin of the news theater business.

One of Otterson's monochromatic sets for "First Love." Painted in two shades of blue-gray, the color scheme is pleasing visually as well as photographically. Still from art department files, photographed by Roman Freulich.



In KODACHROME

THERE'S modern magic in the phrase, "in Kodachrome." It is not merely the magic of a great photographic achievement; it is, more importantly, the magic of your ability, through Kodachrome, so easily to picture the whole world of color in the home movies you make. Load your movie camera—8 mm. or 16 mm.—with Kodachrome Film, and start shooting.

Indoors or out, day or night, the world is colorful. At the seaside, in the mountains, at the Fairs, wherever you may go, wherever you may be, there's color—color to see, color to picture in Kodachrome. Subtle color, vivid color—Kodachrome depicts it beautifully.

There's regular Kodachrome for daylight use, and Type A Kodachrome for movie-making by artificial light (including World's Fair illuminations). Both are the same price—and the price includes Eastman processing and return of the film, ready for projection.

**EASTMAN KODAK COMPANY
ROCHESTER, N. Y.**



16 mm. Ciné-Kodak Kodachrome Film, both regular and Type A, is available in 100-foot rolls at \$9; 50-foot magazines at \$5; 50-foot rolls at \$4.75. Kodachrome for 8 mm. cameras is available in 25-foot rolls (the equivalent, in screen time, of 100 feet of 16 mm. film) at \$3.75. All prices include processing.

Introduction to

By Ormal I. Sprungman



Extremely fast movie film emulsions have broadened the field of indoor photography. This shot was taken at a Shrine Circus performance in Minneapolis' auditorium.

LONG before the days of the nickelodeon bleary-eyed inventors were dabbling with the intricacies of home movies, experimenting with ways and means of making pictures move in life-like fashion.

The magic lantern, devised just three centuries ago, was all right in its way. It tickled the fancy of the hoopskirt generation, and it provided a respite from the parlor pastime of thumb-twiddling. But it still left much to be desired.

In many of the larger cities folks even paid good money to watch a soloist step out on the stage of the "op'ry" house and chant a bit while colored slides flashed on the screen. It was wellnigh marvelous what this world was coming to.

Then scientists discovered that most every average person had something which nobody thought he had—persistence of vision. It bridged the gap between slides and movies. The human eye, they found, was not only able to record an image but to retain it for a split second before another image moved in and took its place.

Knowledge of Movement

Because of this optical illusion one is led to believe that he really sees pictures in motion when projected on a screen, when, as a matter of fact, he is actually witnessing a very rapid series of very inanimate still pictures.

Examine any typical action sequence

from an 8mm. or a 16mm. film. Here, for instance, is a strip showing a closeup of a hiker's boots moving down the road. If the stroll is leisurely, perhaps a dozen or more individual movie frames may be exposed during the procedure of lifting one boot and planting it down again.

If the hiker is trotting, perhaps only half as many frames will record the more rapid action. Where the action is fast, the scene recorded in each frame changes quickly, and some of the frames may even look blurred.

But where the pace is slow, each succeeding frame more and more resembles its preceding one, and where no action occurs whatsoever each frame is identical in appearance.

It is this knowledge of movement that finally gave birth to such animated characters as Mickey Mouse and Donald Duck and Snow White and her midget crew.

Yet even Disney can't be too high-hat, for more than 100 years ago they were fooling with animation. One fellow pasted a series of hand drawings on a disc and revolved it behind another disc punctured with apertures, through which spectators gazed while the discs were spun.

Later, action was photographed on a glass disc, and finally a device was produced which permitted the screening of short lengths of transparent film on

which individual images were outlined by hand.

Then came the Eastman patent covering the use of transparent celluloid for supporting emulsion, and out of this grew a bevy of different film widths—35mm., 17.5mm., 21mm., 15mm., 22mm., 28mm., 9.5mm.

Varying Widths

Some had single perforations in the center, others ran along each side. One film carried three separate rows of pictures, each row being projected in succession by simply turning a knob, mounted on the projector.

In 1923 Eastman announced its 16mm. reversal acetate film, and in the same year the Victor and Cine-Kodak hand-cranked 16mm. movie cameras made their debut. In 1924, Bell & Howell introduced a spring-driven 16mm. Filmo and a 200-watt projector to match. As time trotted along, improvements were made in the shape and operation by experts striving for compactness.

The f/6.3 lenses were replaced by f/3.5, and before long f/1.9, f/1.5 and f/1.4 lenses were no longer luxuries. Lens turrets and variable speeds were added, while the interchangeability of long focus and wide angle lenses gave the miniature

George Culbertson, member of the Minneapolis early dual turntable unit he built for synchronizing loud speaker nests in the bottom of the portable unit, half on a compact unit, half



Moviemaking

Photographs by the Writer

movie camera all the prestige and versatility of the professional outfit.

Kodacolor movies were unique, but Kodachrome lent the final artistic touch. And now with sound even on color film an unbelievable reality, it seems that the only remaining improvements are third dimension and the power of smell, and we don't doubt that the experts are working on both.

Fifty Choices

Roughly speaking, there are approximately 50 sub-standard models of movie cameras on the market today, produced by better than a dozen independent manufacturers. These outfits range in price from around \$10 for an inexpensive "eight" up to pretty close to \$500 for a deluxe 16mm. camera, precision-built and professional in operation.

Yet, despite the rather high price level of the better cameras, moviemaking is by no means a rich man's hobby. It's one pastime where store clerks and elevator operators can rub elbows with bank presidents and big business men. The wealthy fellow usually invests in the best equipment and accumulates all the accessories, while the poor devil buys what he can best afford, and

the Club and 8mm. enthusiast, is shown with an big sound and music to his films. The removable case when not in use. Culbertson is now working in size and doubly efficient.



If the camera is kept in readiness at all times, such intimate views as this grouse crossing a backwoods road in northern Minnesota are possible.



the odds are still in his favor that he'll produce the best pictures. Mere ownership of costly equipment is no guarantee of topnotch movies. Nor do years of increasing experience always insure increasing quality.

No doubt you know of amateurs new to the game who have studied its perplexities with diligence, and who are far ahead of the fellow who has been shooting haphazardly for a decade or more.

All right. You say you're sold on amateur movies. If you already haven't a camera, you're going to get one soon. But you're still a bit leary about the workings of one of those contraptions. You're afraid that it'll take an Einstein brain to tangle with focal lengths, vignettes, variable speeds and film emulsions. That's where you're wrong.

If you can click a still camera, you can take movies. Nobody dares say how good they'll be at first, but if you follow the instruction book we'll warrant they'll be projectionable.

Recent improvements in laboratory processing of black and white films have made possible the partial rectifying of glaring exposure faults even on the part of beginners.

Chances are you'll save that first film for all eternity. It'll be a sort of a handy club to pound some sense into your later filming efforts.

Anything that you can remember about snapshotting will be particularly

helpful to you in your movie work. All that you know about composition, exposure, outdoor or indoor lighting, film speeds and camera angles will be distinctly advantageous as soon as you thread your initial roll.

In addition, just pay a little attention to scene length, camera speed, continuity planning and proper editing and titling, and that's as complex as your movie problems will ever get.

If all scenes required the same amount of footage—that is, remained on the screen for the same length of time—your finished reel would be pretty monotonous, and so you will learn by experience and by careful observance of the topnotch work of others when to cut and when not to cut.

While most shooting will be done at normal speed—16 frames a second—there may be times when you may wish to use only 8 frames, if your camera is so equipped, to obtain super-fast, exaggerated action, or 32 to 64 frames to secure slow motion for studying otherwise rapid movements.

Handling Important

Camera handling is quite important, and one of the earmarks of the beginner is to shoot his jittery footage without a tripod or other firm support.

Another earmark is his uncanny ability at panoraming his camera. He sprays the landscape like a garden hose. He pans up buildings and down streets. He



pans from right to left and back to right again.

Unfortunately, the stuff is eye-straining and unmovielike. Sooner or later he learns to shoot steady pictures, panoraming only to follow moving objects or swing from one object of interest to another, and then very slowly.

Panoraming, he finds, also can be minimized by taking different angle shots of the same subject, and swinging in from long shots to medium shots and closeups.

There are many tricks to be learned in amateur moviemaking. But don't expect to learn them in your first year. Perhaps that is what gives the movie hobby its zest and universal appeal, for amateur cinematography, unlike other hobbies, has followers of many colors, races and creeds living in Europe, Asia, Australia, Africa and the Americas.

Outsiders are usually amazed at the versatility of the modern amateur movie camera.

Business has found a spot for it. Sixteen millimeter industrial films, with or without sound, are being made and screened right along, showing distinctive sales methods, manufacturing processes, and for recording the progress of plants or analyzing mass production.

Whether it's a feed mill, a pickle plant or an oil dispensary, the practical sub-standard movie fits into the picture.

Professional Men Addicts

Professional men are extremely partial toward the compact little cameras not only for photographing their hobbies but for filming their work. Many medical men have recorded on celluloid complete histories of unusual cases, and not a few doctors have even rigged up remotely controlled cameras and lights over operating tables to shoot as they work.

Dentists, too, have discovered the usefulness of sub-standard films in monochrome or color. A closeup cine production on Immediate Denture Service, for instance, is twice as effective as charts, slides or long-winded discussions at dental conclaves, while films showing

Left, a cine titler is handy for enlarging portions of maps, as well as for filming extreme closeups and titles.

Right, pets always make good filming subjects, and closeup views are most essential.

mouth health and teeth care have already proved their educational importance among adults as well as children.

Community chest drives, welfare groups, orphan homes and settlement houses rely on amateur movies as effective propaganda for outlining their shortcomings and their needs, and for soliciting funds for future operations.

Opportunities for turning his hobby into worthwhile profits as well as fun await the amateur movie maker who can produce and shoot worthwhile footage.

Because of the less expensive and more convenient small film widths, it has been possible to provide teaching films for classroom use in far greater quantity than if the more costly 35mm. film were used. Reduction prints of theatrical films have even made the voice and personality of many well-known Hollywood stars known in every home.

In courtrooms where movies have been properly admitted as evidence, their

screening has gone far in influencing juries. Accident victims, exaggerating their injuries and demanding exorbitant sums, have been put in their place at public trials by the showing of movies, taken secretly, revealing the use of supposedly injured limbs, or the true physical status of allegedly incapacitated persons.

Documentaries Growing

Documentary and historical movies in 8mm. or 16mm. have come forth from even the smallest communities, where public-spirited citizens have chronicled the progress of their hamlets, along with the pageants and public meetings.

Even pastors, who once scorned movies as though Satan himself were the cameraman, now utilize minicams to preserve and memorialize the story of the origin and growth of their congregations.

In fact, special reels have been prepared to gain public support toward offsetting church indebtedness or aiding building programs through individual pledges.

So successful are amateur movies in influencing individual habits that the railroad, steamship and travel companies have discovered that well-filmed travelogs by staff photographers provide excellent advertising.

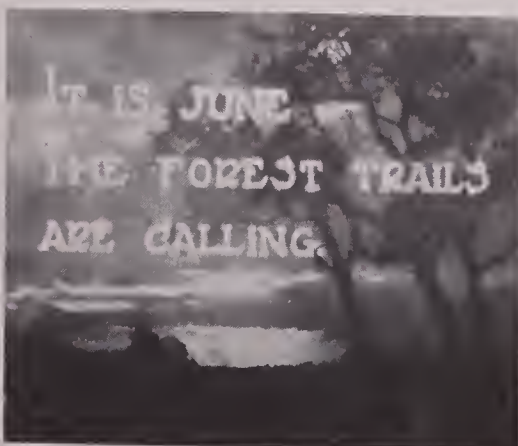
Whatever your experience or knowledge, your personality will doubtless enter into your filming. If you're an Indian relic collector, you'll probably specialize on Redskin filming. If you like hunting or fishing, your footage will center mainly around the outdoor life.

If you have strong artistic tastes, your reels will probably record only the beautiful. This is as it should be, for moviemaking without a purpose is aimless, wasteful shooting. If you like filming birds, for instance, make a study of their habits and personalities, and because you specialize you will attain a reputation for your work, and fellow moviemakers will call on you for advice.

If your companion hobby is horticulture, flower filming will probably steal

(Continued on Page 382)

16mm. frame enlargement of hand-lettered title on double-exposed background.



PROCESS SHOTS AIDED BY TRIPLE PROJECTOR

By WILLIAM STULL, A.S.C.

WIDELY differing production problems during the past year have led two of Hollywood's leading directors of special process photography, working quite independent of each other, to develop fundamentally similar equipment which promises great advances in the scope of the projected background or transparency process.

In each case, increased screen brightness was the key to the problem in hand. At the Warner Brothers' Studio Byron Haskin, A.S.C., needed higher screen illumination to give color "process shots" the same physical scope and flexibility which has made monochrome projection process cinematography such an asset.

At Paramount Farciot Edouart, A.S.C., required greater screen brilliance not only for color transparencies, but to cope with the requirements of making monochrome transparency scenes on extremely large screens. He therefore determined upon a logical expansion of the principles which had evolved his dual-screen camera and projection system which had received an Academy Award in 1937.

Both reasoned that, with existing light sources and lenses, the maximum in light delivery had been reached. More efficient projection lamps and faster lenses could undoubtedly be developed (such developments are even now nearing completion), but such research would be an expensive and time consuming process.

With productions which would make demands greater than could be met by existing equipment slated for immediate shooting some method had to be found to obtain higher screen brightness from existing light sources.

Compounding Illumination

Under these circumstances the solution was found in compounding light sources and projectors. If one pro-

jector does not give enough light, two or more, with their images superimposed on the screen, should do so.

Synchronizing the several projection movements would present no more of a problem than synchronizing a single projector and a camera. The parallax caused by the physical separation of the projecting lenses and the consequent displacement of the images they project would, however, be a difficulty.

Since two or three separate projectors could not be placed sufficiently close together to avoid this trouble, while still remaining accessible for operation, it was clear that the several projection heads would have to be engineered into a single, compounded unit.

Both the Paramount and the Warner Brothers' designs therefore consist of three basically standard process projection heads mounted on a common base. This base disposes the three heads in a T-formation. The center head, mounted on what might be called the upright of the T, projects directly on to the screen in the usual manner.

The two outboard heads, mounted on the two arms of the T, face each other, with their optical axes at right angles to that of the center projector, and their beams are reflected to the screen by means of front-surface mirrors.

Parallax Compensation

In the Paramount machine the lamp-houses are mounted on an optically centered base integral with that of the projection movements. In the Warner installation the lamp-house and head bases are separate units and operated separately.

As might be expected when two designers independently follow similar courses, the two designs differ considerably in detail. This is particularly noticeable in the methods of focusing and of compensating for parallax.

In the Warner design, focusing is done by an adjustment which racks the projection movement forward or back in relation to a rigidly positioned lens.

In the Paramount design the lenses, all of which are fitted with selsyn-motored remote control focusing, are mounted in substantially conventional positions, with the reflecting mirrors in front of the outboard lenses, with enough space between their inner edges to allow the center lens to project its beam between them. Each of the three lenses can be focused independently, from the camera position.

Parallax compensation in the Warner design is obtained by lateral adjustments of the two outboard projection heads in a manner reminiscent to that of the adjustable back of a still camera, though of course of infinitely greater precision.

In the Paramount design parallax compensation is secured by precision adjustments of the two outboard lenses in much the same fashion as the rising and laterally sliding frontboard of a still camera. Either of the two lenses may be adjusted individually.

Three in One

The mirrors have precision micrometer adjustments of rotation and tilt to exactly and perfectly superimpose the three images into one.

Both equipments provide a means of tilting the whole unit up or down to place the picture at any desired height.

The axis of this tilting rotation in the Warner machine coincides with the optical axis of the two outer projection heads.

In the Paramount design all three lenses, movements and lamp-houses are mounted in perfect alignment on a single base. Therefore the entire triple projector may be rotated or tilted as a unit.

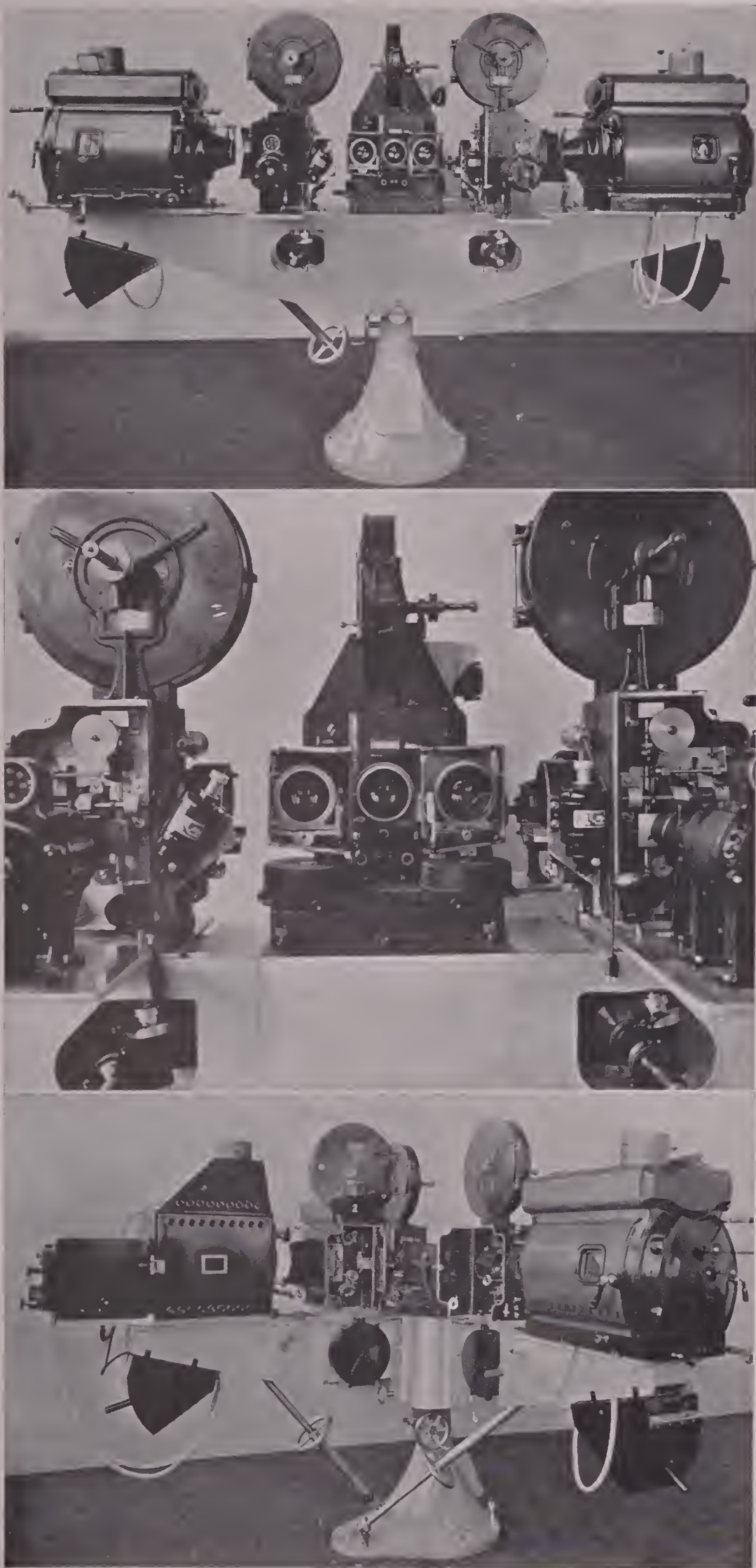
This is done by rotating it about a precision ball and socket joint in the base, and does not affect the alignment or registration of any of the three images or their light sources with respect to each other. All three images remain in perfect register regardless of pan or tilt.

With three film movements and lamp-houses there is inevitably a definite increase in the noise of operation as compared to a single projector. Therefore in each case these triple head units are housed in soundproof booths about the size of a small theatre's projection booth.

Process Shots in Color

Paramount's triplex is a completely portable installation. The entire four-ton booth is mounted on a hoist by which it may quickly be adjusted to any desired lens center height up to eighteen feet above the stage floor. When yet higher elevations are needed the booth is placed on special steel parallels. It is moved about the studio with the same freedom as any portable single projector.

The Warner installation is at present



The Paramount triple-head projector. Top, front view; note how entire base may be panned or tilted as a unit about the pedestal. Center, closer view of triplex mechanism; note selsyn motors for remote control focusing from camera position, visible beside the two outboard heads. Bottom, rear view of Paramount machine; note locking tie rods for rigid lock in any pan or tilt position, also that the right hand projection movement is made for left hand threading to conserve space in booth.

of the fixed type, though it is planned ultimately to adapt it for portable use.

As has been said, the installation at Warner Brothers grew out of the process shot requirements of natural color cinematography. When the production of "Gold Is Where You Find It" was being planned, it became evident that certain scenes could not efficiently be photographed without the use of the projected background process on a scale impossible in color with any existing single projection units.

Obviously the light absorption of even a light color print will make a marked reduction in screen brightness, while the heavy filter absorption of the three-color camera, combined with the relatively slower film then in use, would put further restrictions on practical screen sizes.

With a single projector, a picture ten or twelve feet wide was the apparent maximum possible in color.

With the triple head projector and the old, slower Technicolor film, it became possible to use background screens fifteen to eighteen feet wide for color process-shots. With the new and faster emulsions recently introduced by Technicolor, further advances seem possible, though as yet none too much actual production process work has been done in color on extremely large screens.

Tests at Warners, however, indicate that the combination of the faster color film and the triple-head projector will permit the making of natural-color projection shots on screens as large as those used in monochrome before the acceptance of today's ultra-fast black and white films—in other words, the use of screens close to twenty feet in width, depending, of course, on the nature of the scene and background involved.

Color Corrected Lenses

In this connection, Haskin makes an interesting comment. "One of the first things we learned about making color projection shots," he says, "was the importance of using projection lenses that were fully color corrected.

"Our first experiments were made with the lenses we had always used and found efficient for monochrome process projection; they were not color corrected. Even with a single projector, securing good definition was a tremendous problem.

"With the triple-head machine, where three uncorrected lenses added their

The Warner Brothers' triplex. Top, front view. Center, closer view of the three heads; what appear to be the mounts of the two outboard lenses are actually their reflections in the first surface mirrors. Bottom, rear view of the machine, showing independent mount and tilting mechanism of center lamp-house.

aberrations together, it became almost impossible. As soon as we installed lenses that were properly color-corrected, the trouble vanished: we got better definition than we had hoped would be possible.

"But when you stop to think that our color productions are being shown to the audiences of a majority of the world's theatres through lenses of the same, uncorrected type, you certainly wonder that color has been so successful, in spite of such a handicap.

"With the increasing trend toward color, it seems a foregone conclusion that ultimately even the smaller theatres will find it necessary to re-equip themselves with modern, color-corrected projection lenses.

"It may be interesting to mention that we have found a way to put color to work in simplifying the otherwise difficult problem of lining up our three images for perfect registration.

"It is easy enough to get a rough adjustment by ordinary methods; but getting the final, almost microscopic superimposition of the three images that will literally blend them into one perfect one, is a very different matter.

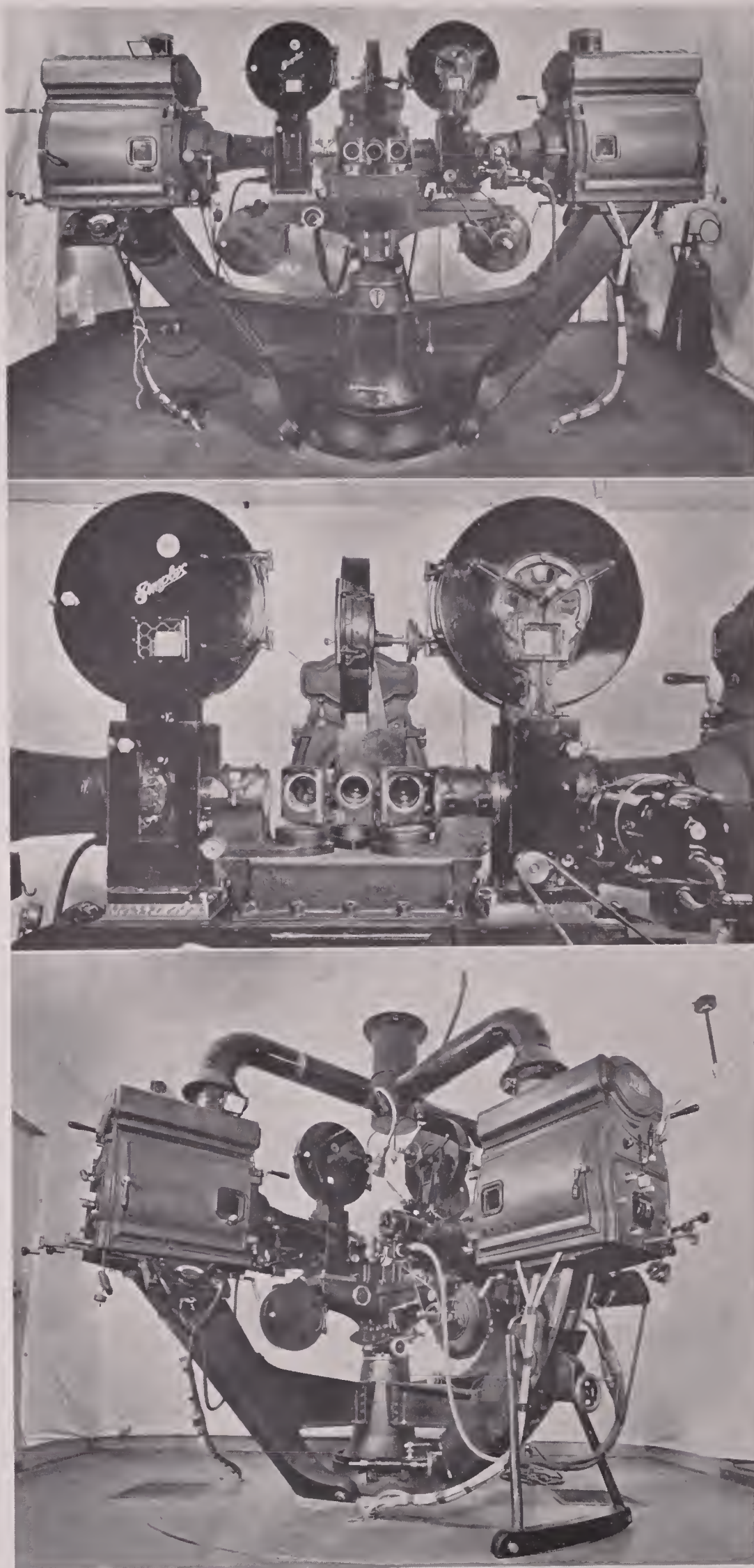
Additive Color Focusing

"So we use additive color projection. Three images of a simple chart are projected, each in its proper additive color. When we see, say, a red fringe around the design, we know that the outboard head projecting the red image is out of register, and the side on which the fringe appears indicates in which direction it is out of register.

"The same is true about the other projector if we see a blue fringe. When our chart appears as a pure black and white, we know immediately that all three images are in perfect register. In this way we can get our equipment lined up much faster and easier than would be possible any other way.

"In this connection, we've found that the design of our unit, in which the three lenses are rigidly mounted, saves trouble when it is necessary to change lenses between takes—as for instance when going from a long-shot to a close-up of the same scene, and using the same background plate. The projector is already correctly aligned. The lenses are, of course, matched sets in standardized mounts.

"All that is necessary is to open the clamplike mount, slip out the old lenses and slip the new ones into place. When the mount is fastened shut they are held rigidly in position in the same alignment as were the set previously used. It



is only necessary to refocus—and the outfit is ready to roll on the next take.

"It has been our experience that the use of the triple-head background projector has done more than any other single factor to advance color to production parity with black and white. In monochrome today we are so accustomed to the use of large-scale projected background process shots as a means of saving time, effort and money that we take it for granted.

"Many of us only notice it negatively—as when, as was so long the case in color, technical considerations make it impossible to apply the process on the same sweeping scale. Then the creative workers in the studio find their efforts hampered, while the executives find costs mounting past the danger point.

"The combination of the triple-head projector and the new, faster color film should remove the last of these restrictions from color, and insofar as special process cinematography is concerned enable us to make color pictures with the same facility and efficiency we do black and white."

Monochrome Achievements

The Paramount triple-head projector, while it was developed with an eye to solving the color problems in such films as "Men with Wings," is perhaps best known for the spectacular achievements it made possible in extreme large scale monochrome transparency process work. It received its baptism in the production of "Spawn of the North." For this an enormous completely enclosed tank-stage, several acres in area, was built. Its dimensions were sufficient to permit as many as three full-sized fifty-foot fishing boats to be manoeuvred, with in addition any necessary icebergs in the foreground. The background was a projected transparency, of a size, as may be appreciated, never before thought possible.

The initial experiments were made with a twenty-four-foot screen, which proved inadequate. Therefore what is held to be the world's largest process screen was built: it measures thirty-six feet in width by twenty-seven feet high. The triple-head projector, combined with the use of modern, high-speed negative film in the composite camera, permitted the successful use of the process on this impressive scale.

The tremendous increase in screen brightness yielded by this projector may, as Edouart points out, be utilized in several ways, as may be expedient. "A conservative figure for this increase," he states, is an average of not less than 280 per cent more light than is possible with any existing single projection equipment.

"On one hand, this means that a much larger screen area can be used, either in monochrome, as was the case in 'Spawn of the North,' or in color, as was the case in 'Men with Wings,' for some scenes of which we manoeuvred a complete full-sized airplane in front of the transparency screen. In the latter con-

nection it must be pointed out that at present the transparency cinematographer is seriously handicapped by the fact that all existing color cameras are fitted with the Academy Standard sound picture aperture rather than with the larger, full frame silent picture aperture.

"This means that almost one third of the frame area—29½ per cent, to be exact—is wasted, and with it a corresponding percentage of screen illumination. Under present conditions, that cannot be helped.

"But in addition the triple projector's increased screen brightness can be turned to added advantage in other directions, giving further essential benefits in flexibility and cumulative quality.

Better Gradation

"With this increased illumination, when such extreme screen sizes need not be sought, darker prints may be used. This gives a better gradational scale, and better quality both on the process screen and in the final composite print.

"In the same way, it becomes possible in many shots to reduce the amperage of the individual projection light sources, thereby subjecting the background plates to less heat, and giving them a proportionately longer useful life.

Duncan Little Invited to Quebec to Stage Film Show

As we are going to press this month Duncan MacD. Little of New York is in Quebec on the invitation of Louis Coderre, deputy minister of commerce and industry of the province. He is there attending a conference and picture show, at the latter of which he will appear in a dual role. He will be the speaker of the occasion and as the sponsor for the films shown, which will be his "Making of Canadian Home-spun," "Here and There in Habitant Land" and "The City on the Rock."

It all was an honor Mr. Little hardly could refuse to accept: that a foreigner should be invited to attend a conference in a strange land and show his own pictures of that strang land. The same program will be repeated at a gathering sponsored by the local chapter of the Imperial Order of Daughters of the Empire. One of those in the Little party will be Tom Andrews, who will take care of the musical part of the entertainment.

On July 29 and 30 will be the sixth annual canoe race. On the 28th preceding the race will be staged the fourth annual summer show, under the auspices of the Societe du Flambeau of Trois-Rivieres.

Last fall Mr. Little had started a film on logging, intending to secure the winter scenes in the months to come. Instead there intervened three months of Grand Jury service, delaying the snow stuff for the coming winter. The film is now three-quarters complete.

"The increased screen brightness can also be turned to great advantage by making it possible to stop down the lens of the composite camera, thereby getting a much-needed increase in depth of field.

"With today's steadily increasing use of really large scale transparency shots, this is a vital factor. Some of the transparency sequences for 'Geronimo,' for instance, were on so large a scale that the whole of one of the studio's largest stages was occupied by the set and projection set-up. The composite camera and the projector were separated by as much as 196 feet, with the screen some 75 feet distant from the camera. Yet in some scenes the actor nearest the camera might be within 18 feet from the lens.

"Obviously, extreme depth of field will be necessary under such circumstances, and it can only be achieved by being able to stop down the lens of the composite camera. Even with today's fast films, this is in turn largely dependent upon the illumination of the background screen.

"If this screen can only be illuminated to a degree demanding an f:2.3 exposure, such a shot is manifestly impossible, for it will lack the depth of field which will make it convincing.

"If, on the other hand, the background screen is illuminated to a level permitting an exposure at, say, f:3.1 or less, it becomes practical to make the shot which, in this case, requires adequate definition from fifteen feet or less to infinity!"

Greater Flexibility

Both Edouart and Haskin point out that the triple projection principle minimizes several existing weaknesses of the process, and in addition permits new and potentially valuable methods of control.

Graininess in the projected picture, for instance, has always been a considerable problem. With images from three separate positives superimposed on the screen, the effect of graininess will be minimized, since the individual grain images tend to overlap and cancel each other out.

The same is true of flicker caused by variations in the projection light source. These fluctuations are most frequently caused by defects in the carbons; and it is highly improbable that such defects should ever occur identically and simultaneously in three sets of carbons.

Clearly, in the case of a flicker in one of the three arcs, the total effect on the projected picture will be but one-third as great as would be the case in a projector employing but a single light source.

Under most circumstances, the use of the three light sources should tend to a marked reduction in the "hot spot" problems ordinarily encountered. With an ample reserve of illuminating power the arc beams need not be concentrated to so intense a spot on the aperture, with a resultingly more even distribution of illumination over the picture area.

(Continued on Page 376)

CONSOLIDATED INSTALLS DEPARTMENT FOR 16MM.

A T considerable expense Consolidated Film Industries has equipped its Hollywood plant for the production of commercial 16mm. prints of the same quality as that which for many years has characterized its 35mm. output. In a room perhaps 12 by 20 feet in area, but with abundant extra space readily accessible, it has installed a brand new Fonda developing machine, which already is at work.

George W. Yates, who for many years has been an executive of Consolidated, has been assigned charge of the new department. For the last four months, with his well known capacity for digging into a subject in which he is interested, he has given his undivided time to making a survey of the 16mm. field, which included an exhaustive study of the relative merits of the quality that rides in prints reduced from 35mm. negative, in 16mm. reversal and in straight 16mm. negative and positive.

Mr. Yates has no hesitation in expressing his belief that with the facilities that have been developed by Consolidated in recent years the highest quality in 16mm. prints comes from those that have been reduced from 35mm. At the same time with equal readiness he expresses a wish to give a customer what he wants.

"We often hear it said the 16mm. branch of the industry is an infant," said the head of the new department. "Maybe it is, but it is a lusty and a healthy infant and it requires nourishment. We intend to see that so far as we are concerned it gets just that. We intend to try to profit by the mistakes that were made in the 35mm. field.

"We want to make good prints from original negatives, to build up and enhance the stock that is confided to our custody. In our plant we aim to give all possible and available service to our customers—and I give our promise we won't enter into competition with them."

In showing his 16mm. laboratory installation Mr. Yates declared not only was the equipment air conditioned but it was the last word in progress in developing and in construction of the equipment. "Yes, you may ask if it is a sort of trial horse," he added with a grim smile, "but we believe that horse already is on his way to town. We are passing on to 16mm. the benefit of all the experience we have gained over a long period in 35mm.

"We are installing projection, too, for 16mm. Arrangements will be completed shortly so that the smaller of the two parallel theatrical projection rooms may quickly and conveniently be converted into a room for the accommodation of

the 16mm.—and with projection equipment designed to give our prints the best possible reproduction on the screen."

In Consolidated's extensive laboratory in Seward street, in its parklike and landscaped grounds, plans are nearly completed for the final taking over of

Magnacolor bipack. That is another announcement of importance for the near future.

Fischbeck-Murphy

Harry Fischbeck, A.S.C., and Miss Billie Murphy of Palm Springs were married in July by the Rev. Mr. Jardine of London. The bride operates the House of Murphy in Palm Springs. Mr. Fischbeck has been a director of Photography for Paramount for eighteen years. He has just completed his assignment on "World on Parade."

Our Compliments to John Alton, A.S.C.

SOMETHING over a year ago John Alton, A.S.C., speaking nearly a dozen languages, went to Buenos Aires and was engaged by Argentina Sono Film. Actually it was March 5 he sailed from New Orleans. On his arrival in B. A. he found a company car at the dock assigned to convey him to the studio, which is one of the tops as studios go in South America. Early in June Alton completed his first picture, "El Ultimo Encounter," translated as "The Last Encounter." It was praised in the press, which hailed the return to the country of the photographer, who really is a Hollywoodian but who has worked much abroad. By the following October he had finished his second picture "Madreselva," starring Libertad Lamarque. The Argentine press was most generous in its praise of the picture, and lavish indeed in its kind words for Alton.

Even as the press were bestowing compliments on "Madreselva" Alton already was at work on the same company's "Puerta Cerrada," or "Closed Door" in English. In speaking of his plans for the coming subject Alton privately intimated without going into detail he might introduce something novel in photography.

On the evening of July 23, for the second night, "Puerta Cerrada" was shown at the new Academy Theatre in Hollywood. In a brief comment prior to the opening of the picture Donald Gledhill, executive secretary of the Academy, said the audience was in for a treat, in spite of the fact the dialogue was in Spanish and there were no English titles.

Also the secretary assured the house that for "sheer pictorial beauty" what was coming would hold its own with Hollywood product. The event as it was known in a few minutes justified the prophecy. The medium and long shots were in a uniformly low key lighting. The shots taken nearer the camera were remarkable for brilliance and impressive quality. They were of the sort that get under the skin of the admirer of photographic excellence.

The photography as a standard, as a whole, was dramatic in its effect, in its influence, on the spectator. And then, to be sure, what a subject was Libertad Lamarque, described in one of the Argentine newspapers as the best box office attraction in all Latin countries. Difficult it would be indeed after witnessing her work in this melodramatic tragedy to name her all around equal on the American screen, barring the language handicap. Everything she has in abundance. She is a singer of real quality and stage presence. She has remarkable physical beauty. She has great appeal and sincerity and rare charm, proving her high claim to rank as an actress.

The sound in "Puerta Cerrada" is first class and is credited to R. C. A. The direction and production are of such excellence as to carry a business tip to American producers. There is to be feared in a competitive way in South America for South Americans and for Latins in Europe and the world around a force much greater and of more power than can be created in Germany, under the present regime at least. And the same applies to Italy, the second of the nations moving heaven and earth, so to speak, to break in in the Southern Continent.

We are informed that "Puerta Cerrada" is in the custody of the Foreign Film Exchange of Los Angeles.

On Friday, July 21, the Academy showed "Alas de Mi Patria" ("Wings of My Country"), produced by the same company as was "Puerta Cerrada." It is a dramatization of the history of aviation in Argentina and was directed by Carlos Borcosque, who is known in Hollywood.

HOW TO IMPROVE YOUR TITLES

By BILL BESBEE

TITLEMAKING is one of the most fascinating pastimes connected with amateur movies. The particular satisfaction of this work lies in its creative aspect. The titlemaker has complete control over his results and after a short period of experience can be certain of getting exactly the effect he wants every time.

Good titlemaking is a very satisfying end in itself, and it gives back much for the effort expended. But, more than this, titlemaking has become so much an integral part of amateur movies because good titles will vastly improve any film.

In this role, good titles may take many important parts. They interpret the film to the audience; they speak for the silent actors; they describe far places and distant lands; they state facts and they are the parentheses without which no film may have a fitting opening and closing. This is why titles are important:

To the occasional shooter who wants to make ordinary titles with a minimum of trouble; to the enthusiast who wants every titlemaking facility to try out his pet ideas; to the maker of business or industrial films; to the serious worker; the animator and the scientist.

It is why titlemaking is one of the

most active branches of the amateur movie hobby.

Best Movie Titler

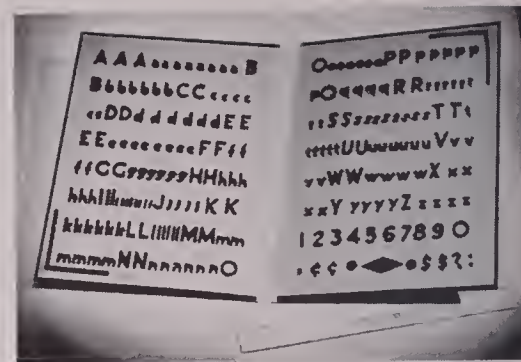
The best movie title is that which is clear and succinct. Try to put the idea over in as few words as possible. A short title is easier to arrange in a given space, and also has the advantage of being read more easily.

Long, wordy titles take so much time for the audience to absorb that they may delay the action of the picture. Title writing is like creating a newspaper headline—it is the art of saying much in few words.

With a little practice this becomes a relatively easy matter. In any case, too much should not be said in any single title. If an unusually long text is required, several titles may be used, dissolving one into the other.

Titles should stimulate your audience, not merely give them a lot of dry information. Much originality and good taste can be shown by the grouping of title letters and their arrangement in the 3 by 4 unit space of the movie frame.

It is best to group the words together in a compact block of type in or near the center of the title surface, rather than to bring them too close to the edge



Besbee Title Letter set, three-quarter-inch capitals and half-inch lower case letters.

of the frame. This minimizes the effect of any slight errors in centering and also prevents the projector aperture from cutting off the edges of letters.

Size of Type

Convenience will dictate what size letters to use in any given title area. Within certain limits, if the title is short, the letters may be larger and vice versa. A 3 by 4 inch title can be made with letters $\frac{1}{4}$ to $\frac{1}{2}$ inch high, while a 9 by 12 inch title will take $\frac{3}{4}$ inch or 1 inch letters.

It is recommendable not to fill up a title with too much distracting material.

Next to the making of the actual pictures, titlemaking offers the most fascinating means of working out one's own ideas in home movies. Not only does titlemaking have a satisfaction in itself but also it improves the picture which it accompanies.

With the Besbee Titlemaker, for instance, there is practically no limit to the novel and original ideas that can be worked out because in this outfit there is provided every possible adjustment and accessory the amateur movie-maker needs to make perfectly arranged accurately centered titles.

This titlemaker can be used for the simplest hand lettered or typewritten titles, as well as the most carefully planned map, animation, scientific or cartoon work.

The easiest title to make is that built up with Spell-O-Tex Titling Letters. These are die-cut from special composition and are provided with an adhesive backing, so that they will adhere firmly to any smooth surface. After using, they may be removed and used again as often as desired.

For plain titles with reversal film, the Silver Surface letters are best, although white letters may also be used with good results. The letters are arranged on the title background, which should be dark, according to the regular rules for titling, centering and spacing already given.

Footage of Titles

The lights are turned on and the camera is started running. The footage consumed for any given title will naturally depend upon the length of the title word-



Besbee Universal Titlemaker, with illuminator.

ing. A good general rule is one second a word for all but the shortest words.

Another method is to read the title over twice aloud while the camera is running. The Title Illuminator will be found most convenient for providing an even light on the title surface, although separate lights in reflectors may be used in place of this. Care should be taken to keep the illumination even. The exposure will vary with the type of bulb used and with the line voltage.

Since a small diaphragm opening on the camera lens makes for a sharper title, it is suggested that No. 1 flood bulbs be used in the Title Illuminator with all film except superspeed panchromatic.

The following table will give a working basis for the maker of titles, using black and white reversal film, silver Spell-O-Tex letters on a 9 by 12 inch background and two No. 1 flood bulbs:

Slow type, "color blind" reversal film (a very suitable film for title work)	f/3.5
Par speed panchromatic (Agfa pan, DuPont, Gevaert or Eastman Safety)	f/5.6 to f/8
Agfa Plenachrome, Gevaert Ortho	f/5.6
Agfa Hypan	f/8
Supersensitive emulsions..	f/11-f/16
(When using half speed, use next smaller stop opening in each case.)	

Small Title Areas

There are two classes of movie camera lenses in use; those which operate in focusing mounts and those which have fixed focus mounts. For general title-making and for all closeup work the lens in focusing mount is preferable. Most lenses in focusing mounts may be adjusted to focus sharply on distances from 24 inches to 12 inches from the camera.

Owners of cameras with such lenses will find the Titlemaker extremely satisfactory, as, with the normal one inch lens, an area of about 3½ by 4½ inches is included at a distance of one foot and about 7 by 9 inches at a distance of two feet.

The fixed focus one-inch 16mm. lens, on the other hand, is set so that objects from about six feet on to infinity will be satisfactorily sharp. Since the title surface, if shot at six-foot distance,

would be about 28 inches wide, users of fixed focus lenses must employ "portrait" or "closeup" attachments when shooting titles smaller than 24 inches wide, else the title letters will not appear sharp.

It is a well-known fact that the smaller the lens stop the greater the tolerance in focus, hence passable results may sometimes be had with a fixed focus camera by using a very small stop (f/16) and lots of light.

But the most satisfactory method lies in the use of auxiliary lenses which may be had to focus sharply at several standard closeup distances. Using these auxiliary lenses, the area covered will be about the same as given in the supplied adjustment chart for focusing lenses.

Direct Positive Method

Those who work with focusing lenses, if they wish to photograph areas smaller than that given at the closest focus of the lens, must also make use of auxiliary lens attachments. The limits of close focus for the taking lens may always be stretched a little by closing down the diaphragm to a small stop.

The method of many direct positive titles provides a most effective way to make use of title cards which are lettered or printed in black on a white or light background. Since such lettering is much more easy to produce on the white card than white lettering on black, the direct positive method is widely used.

The film employed is the regular 16mm. or 8mm. positive, which is available from all larger movie suppliers or film manufacturers. It may be had already wound on a camera spool, ready for use, or may be spooled by the user, as it can be purchased in 400 ft. rolls, in the regular "laboratory packing."

This film is inexpensive and very effective for title work, as it has a contrasty emulsion. It is used in the camera in the regular way, giving an increase of about two stops over the values used for regular reversal pan film. After shooting, the film is not reversed, but developed "straight" in a contrast developer.

This results in a negative image of the original title card, with white letters on a dark ground. The direct positive title is spliced into the regular reversal film with the emulsion facing the same way and will then read correctly on the screen.

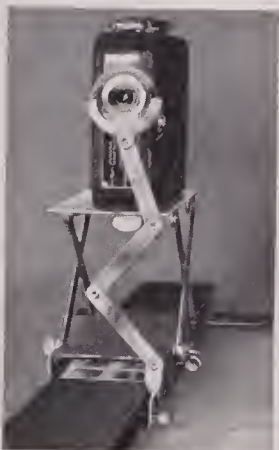
Moving Background

A most interesting effect may be produced by using an actual moving background for titles. This is done by affixing the letters to the sheet of clear glass supplied, placing the glass in the easel and training the camera on some appropriate scene, which is shot through the glass carrying the title letters.

This effect may best be had by taking the outfit out of doors and setting it up on some firm support. With plenty of light on the title letters themselves, the lens may be stopped down to a point at



Four attractive titles with Besbee special title backgrounds.



Besbee Close-up Adapter.

which sufficient depth is given to make the title satisfactorily sharp, as well as the scene beyond.

If a fast film is used, no difficulty will be experienced in stopping down in good bright daylight. The actual moving background should be chosen with the same principles in mind as when selecting still photographic backgrounds.

For those having cameras which will make lap dissolves, a pleasing effect can be had by first shooting the scene with the title, and then by dissolving into the scene without the title, with the camera still in the same position, after which the action proceeds.

Trick titles are one of the most fascinating branches of titling work, because here the imagination of the title maker has full play. This field is so large that it is impossible to cover it in detail in one issue.

GRABBING NIGHT EFFECTS IN DAYTIME

WHEN a professional cinematographer has an outdoor night effect scene to make, and one which does not require too many windows being lit up, he makes it in the daytime.

How? By simply using infra-red sensitive film with a 23-A filter.

But unfortunately, not enough of these night effect scenes enter the province of substandard filming to make it worthwhile for any manufacturer to market a 16mm. or 8mm. infra-red reversible film.

Just the same, daytime night effect scenes may be made very successfully by any of us with our eights or sixteens. All that is necessary is to take a leaf from the professional's book.

Speaking first in terms of monochrome cinematography—the thing is still easier in Kodachrome—the secret of putting over an illusion of night lies partly in having a jet-black sky which in itself suggests night, and partly in judicious underexposure.

Before the professional had a dependable infra-red sensitive film available, he made these daytime night effects with his regular panchromatic film and any

one of several filters. The amateur, even if he hasn't the latest developments of infra-red film to use, can follow suit.

The filters most generally used for daytime night effects are the 72, or "Gamma" filter, and a combination, usually built up as a single filter, of the red 23-A and the green 56-B.

Restricted Use

The amateur can, if he wishes, obtain these same filters in sizes to fit his smaller camera, either from Eastman (Wratten filters), Scheibe or Harrison. But these filters are pretty definitely special purpose affairs, and are of very little use for any other purpose than night effects.

The 72, for instance, is an ultra-deep brownish red filter with a factor of from 20 to 60, depending upon what type of film is being used.

The 23A-56B combination is a somewhat lighter filter, not nearly so reddish in color, and with a factor ranging from about 11 to 18, depending on the emulsion used.

But in most home movie work, night effects come so infrequently that most

of us rather hesitate to tie up two or three useful dollars in a filter of such limited application. But there are other expedients.

For instance, if one has a filter-holder which, like the Harrison and H.C.E. types, permits the use of two glass filters at a time, it is simple enough to improvise your own "combination," using any good red filter such as a 23-A or an F, and any green filter, such as an X-1 or X-2 in combination.

In some cases those who use filters in fixed mounts like the ones supplied for Filmo cameras can achieve an acceptable combination by simply placing a gelatin filter of the desired color, cut out to the right size, between the filter cell and the lens.

In this case, however, it is necessary to be sure the gelatin filter does not get wrinkled as the filter cell is screwed into place.

Underexposure Does Rest

But even with only an ordinary deep red filter, quite convincing night effects are possible. The red filter, of course, will darken the sky, and to a certain extent overcorrect the rendition of green foliage, etc. Underexposure must do the rest.

This question of exposure is one which cannot be dealt with in the abstract. There are too many varieties of 16mm. and 8mm. film in use, each with a different balance of speed and color sensitivity. Besides, processing conditions vary considerably.

With Eastman film, for instance, the automatic exposure compensating control is such that you must greatly exaggerate the underexposure if you don't want to see your scene unexpectedly transformed into an overfiltered daylight effect.

The best solution is to make one or two tests, which will give you a guide as to exposure in the future. A good starting-point would be using the filter without making any exposure-increase. With a heavy red filter, this should give an effect about sufficient to offset most of the automatic exposure-correction of the processing plants.

But—as the professionals learned long ago—simply pulling down the sky with a filter is only half the secret of good night effects. Lighting plays an equally important part.

How to Get 'Em

The most convincing effects are secured by composing the scene so that a rather heavy shadow cuts across the immediate foreground, while the middle distance is a blend of sunlight and shadow, and the distance more brightly lighted.

For another thing, while clouds add to the beauty of day effect scenes, they don't necessarily need to be present in a night effect. A few big, fluffy clouds



Filtered night effect shot in daytime. This still was made on Agfa infra-red. F/4.5, 1/25 second. Courtesy Agfa Motion Picture Topics.

are all right, but there should also be a generous expanse of jet-black sky. Given his choice between too many clouds or none at all, the professional making a night scene infinitely prefers the cloud-free sky.

If filter and exposure are to darken the sky satisfactorily, the camera should be kept away from the sun—that is, keep the sun behind you or over one shoulder; never pointing the lens directly toward the sun, for the sky is whitish close to the sun, but grows progressively bluer after you have turned 90 degrees away.

In making these night effects there are several things to guard against. For one thing the action of the filter which darkens the sky also tends to lighten any red objects in the scene. It doesn't, as a rule, matter much if a brick building suddenly grows lighter at "night"—but if a pretty girl's face becomes so chalky white, and her lips as well, your night effect won't be so pleasing. The professional can use a special lip makeup for such scenes; but unless you are one of the rather few amateurs who employ makeup, you'd better confine your night effects to long-shots!

Have a Care with Red

Red dresses are a similar problem. If you are planning any such night effect scenes insist that the wife or girl-friend wear a dress of any color but red: for if she wears red, she is likely to do as some professional actresses have, and leave an interior scene in a dark dress—only to step outdoors immediately after, wearing an apparently white costume!

Night effects in Kodachrome can be even more effective, and fortunately, they are simpler to make. When the professional cinematographer makes a Technicolor night effect he slips a blue filter on his lens and underexposes. But for once the amateur is head of the game—the Eastman experts have given him a color film with that blue filter already in it!

What, you never heard of it? How about Type A Kodachrome? Did you never make a scene on that film outdoors, forgetting to apply the pinkish filter supplied for using Type A outdoors?

If you have, you know already that without the filter outdoors Type A gives a distinctly bluish, moonlit effect. Now couple that with underexposure a composition that stresses long diagonal shadows, and what have you? A most convincing night effect!

But there's yet one more touch you can add to such scenes. In some cases, this combination of unfiltered Type A and underexposure will still leave you with a sky that is too light and daylit a shade of blue to suit. If that is the case, what is easier than darkening that sky with a pola screen?

LET'S MAKE MOVIES— IN THE RAIN

SO YOU want to make a picture that will lift its head above the commonplace level of ordinary, run-of-the-mill home movies? Well, the easiest way to do that is to turn your camera on some spectacular, out-of-the-ordinary subject. If your picture has something distinctive to say, you won't need the camera technique of a Bill Daniels or a Joe Ruttenberg to make audiences pay attention.

Wait a minute now—who said anything about having to travel to Bali or Timbuctoo in search of unusual subjects? You can find plenty of them right at home—if you keep your eyes open and your camera handy.

All that is necessary is to watch for places and times that you and all your camera-toting friends haven't shot to death. An ordinary place or action, filmed under unusual conditions, automatically becomes an unusual picture.

Now that that's settled, here's some

spectacular camera fodder it is easy to catch almost anywhere at this season. Just wait until the weather reports forecast a bit of rain. Then take your camera and reel off some scenes of familiar things in the rain.

Trees in the Rain

One of the most spectacularly beautiful sequences in the 8mm. Kodachrome picture "Trees," with which Preston Piper won third prize in the recent contest of the Orange County (Cal.) 8mm. Club, was made in the rain. The sequence began with a skyward angle shot of the dull green tops of some tall trees against a slaty blue-gray sky, with the light gray streaks of the falling raindrops strongly contrasted against the dark greenery.

From this beginning he went, with more conservative angles, to further shots of trees gleaming moistly in the rain—sometimes apparently at the foot



With modern fast films, rainy-day movies are easy—even in the evening or at night. This still was photographed by Charles Waite on Agfa Ultra Speed Pan. 5:30 p.m. F/4.5, 1/20 second.

of an upcurving rainbow, sometimes by a rain sprinkled brook, or beside the glistening ebony surface of a paved highway.

Another film, memorable also for its use of rain as a pictorial asset, was "Moods of Nature," with which Paul Burnford of England some years ago captured a prize in the Cinematographer's International Amateur Movie Contest. Burnford's picture told the simple story of the passing of a storm over a typical bit of countryside—beginning and ending with fair weather, but depicting the storm as the dramatic climax between.

He went into considerably more detail in this presentation than did Piper, of course, for the storm was a more important point in his film's continuity. He began with shots of the storm clouds gathering. Then the wind, rippling the tops of a field of ripening grain.

Next the patter of the first scattered raindrops as they fell into the smooth surface of lake and stream. Finally, the pelting rain itself, lashing the smooth waters almost to a froth.

And in the end, as the storm blew itself away and the sun came out again, the final droplets, effectively back-lighted, as they dripped from the leaves.

Broader Scope in City

Both of these films showed the country in the rain. To my mind, modern cities offer even greater possibilities for rainy day filming, and I am amazed that few if any cinemaddicts have turned their attention toward photographing rainy day scenes.

Just think of the possibilities offered for pictorial effect by the broad expanses of glassily wet pavements and sidewalks for reflections of people, buildings, and traffic—to say nothing of the picturesque reflections of auto headlights, traffic signals, street lighting, illuminated signs and shop windows!

And for human interest shots, how about the thousand and one little details as people scurry for cover? Folks rushing blindly along under inadequate umbrellas—others dashing for street cars or trying vainly to flag overworked taxis—and the rare few hardy souls who stride valiantly along umbrellaless, pretending not to notice the downpour?

Then there are the folk who have to be out in the drizzle—the raincoated policeman, in gleaming black rubber, dripping as he directs traffic—the newsboy, coat collar upturned and a bunch of soggy "extras" under his arm—the small shopkeeper hopefully bringing out a rack of umbrellas for a "special sale"! It all adds up to a picture that is distinctively different.

Such a picture could begin, for example, with an insert of a newspaper weather report, forecasting rain. Then a shot of a man at the breakfast table, laying down his paper, going to look out the window, and finding the weather beautiful and clear. With this assurance that the weather man was, as usual, "always wrong," he could sally forth to business, unprotected.

The next sequence could concern itself with the arrival of the promised storm—mounting clouds, increasing breeze, and the like, leading up to the fall of the first few drops. Then we could logically show the effect of the rain on the people, interspersed with the pictorial long shots afforded by the combination of moist, reflective pavements, lights, and so on.

When these have been exhausted several possibilities offer for closing our story. We can bring this central character, whom we have already seen leaving his home contemptuous of weather forecasts and rain gear, home through the storm, thoroughly regretting his carelessness.

Or we can let him work all day indoors, unaware of the rain and—for one of those O. Henry twists—emerge after the storm is over, and return home still blissfully unaware that the weather man was right, after all!

Rainy Day Technicalities

Thanks to modern lenses and film, rainy day movie making is much easier than it would have been a few years ago. For black-and-white we now have the asset of really fast films, such as Super-XX, Super-Pellex and Agfa's Supreme negative, to add to the benefits of fast lenses.

Using these fast emulsions during the daylight hours, even the murkiest clouds a rainy day can offer will seldom be dark enough to force us to open the faster lenses to their fullest aperture. And they open up an entirely new range of possibilities for twilight and after dark filming on wet days—most useful, this, since it is at these hours, when auto headlights, advertising signs and store windows are illuminated, that some of the most striking wet-weather shots can be made.

Kodachroming in wet weather calls

for a good bit more if we want a normal exposure, but in many cases the greater effectiveness of color makes the effort worthwhile. During the daylight hours, regular Kodachrome is of course the thing to use.

Despite its relatively slow speed in comparison to such super-speed emulsions as Super-XX, you will still be surprised to find how much you can get in spite of the murky weather. In some cases, as Piper did, you may find it necessary to slow the camera down to 8 frames a second, but in many more cases you'll find normal speed operation adequate.

Should Have Meter

At night, and even during the twilight, as the lamps and signs begin to light up, the added speed of Type A Kodachrome, used without a filter, will be a welcome advantage.

Finally, in rainy day filming as in any type of camerawork under unusual conditions, a modern photoelectric exposure meter will prove worth its weight in gold. Normal lighting conditions are deceptive enough, but on rainy days, between the light reflected from sky and headlights by the wet streets, and the diffusion given by the clouds, only by actually measuring the light reaching the camera at each individual set-up can we be sure of correct exposure.

So why not, the next time it rains, load up the trusty camera, carefully protecting its lens with an extra-deep lens shade, and venture forth to get some of the really different pictures wet weather offers?

And when the film is edited you can sit back comfortably in your nice, dry chair beside the projector, and find out, first hand, what it feels like to be one of those lucky fellows people congratulate for making unusual films!

Duplicate Transparencies Made from Eastman Color

Duplicate transparencies in color can now be made from most Kodachrome film "stills" and at modest cost, Eastman announces.

Thirty-five-millimeter duplicates, for screen projection, or enlarged duplicate transparencies up to 11 by 14 inches, can be made from original Kodachromes taken with a miniature camera. In addition "same-size" enlarged or reduced-size duplicates can be made from most sizes of professional Kodachrome film transparencies.

Miniature-camera originals may be submitted either mounted or unmounted for duplication.

Thirty-five-millimeter duplicates for projection will be returned in Kodaslide Ready-Mounts, ready for use, unless the order indicates otherwise. If desired, miniature duplicates may be reproduced in sequence on film strips, provided all originals are the same size.

Focusing Alignment Gauge

Closeup photography requires compensation for the difference of field shown in the viewfinder and for increased accuracy in focusing.

The new Focusing Alignment Gauge announced by Bell & Howell for use with the Filmo Turret 8 permits the operator to focus exactly, as well as to obtain the exact boundaries of the close-up picture.

Since the Critical Focuser (which is an integral part of the Filmo Turret 8) and the lens in photographing position are exactly parallel, it is only necessary to slide the Focusing Gauge block to the right and revolve the selected lens back into place in order to photograph the picture precisely as focused and framed in the Critical Focuser.

Thus a title card, map or any subject may be sharply focused and accurately composed within the film-frame area and then photographed with complete assurance. The price is \$7.50.

Plan Your Movies As Well As Your Vacation

By Wm. Stull, A.S.C.



When a tripod is not used support the camera on any available substitute. Photographed by James A. Sherlock, Sydney, Australia.

THE other day a cinefilming friend was bursting with enthusiasm over his vacation plans. "I'm going up through Crater Lake and the Rogue River Country," he said; "then along the Columbia River and over to Glacier National Park. From there I head home through Yellowstone and Salt Lake, with a side trip to Boulder Dam. And won't I just have a knockout picture to show the club when I get home!"

For an hour he overflowed with details about that wonderful vacation he'd planned. It seems he spent most of the last six months planning it—poring over guide books and road maps to extract the last mile of thrilling travel from the time and money he had to spend.

Pictures, you could see, were a prime reason for all this elaborate vacation planning. He would cover half a dozen of the most photogenic locations of the West.

But pictures, when you came to analyze his plans, seemed more and more incidental. He was going to places where pictures could be had. He himself was, and is, a mighty capable man at snagging fine compositions with a cinebox.

Pictures, it would seem, must inevitably follow combining the two.

"Pictures" or . . . a Picture?

Whether or not he will succeed is another matter. It depends upon your idea of a picture. Undoubtedly he will bring back hundreds of feet of pretty pictures. But will he bring back material that can be edited into a coherent motion picture that will interest audiences

It is to be doubted.

He may have spent six months planning where he would go to get his vacation pictures. But he hasn't spent even six minutes planning what he will do with his camera when he gets there! He is leaving entirely to chance the vital matter of what his pictures will be and what they will say.

The result will be roll after roll of photographically beautiful scenes which will give audiences the same impression as a lecturer who speaks at great length in beautiful phrases—but says nothing of importance.

It's easy to argue, as he did, that none of us can forecast today what will

be happening around us six months, six weeks or even six days in the future—that we can't predict that at 9:47 A.M. August 12 a brown bear will cross the road at a predetermined spot in Yellowstone in the right way to give us a perfect cross-lighted shot.

Of course not! But if we're going to Yellowstone we can very easily foretell whether we're going to be interested in filming bears, pot-shotting at geysers, or making a celluloid record of the anglers of our party making a limit catch of trout. And long before we start we can know whether we want our camera to concentrate on wild life, on scenery, or on the activities of our particular party.

Budgeting Filmic Ideas

Practically all of us are faced with the necessity of budgeting our vacation time and cash. Quite a lot of us carry it a step further and at least make an attempt to budget our vacation film footage.

If the vacation planned is like our friend's, covering a lot of territory, we

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Plan Your Movies As Well As Your Vacation

(Continued from Page 373)

plan to hold ourselves in check at the less spectacular points so that we will have enough film left really to cover the more important locations.

Why not, then, go the rest of the way and budget our filmic ideas as well? It will save time, film and money—and it will give a more satisfying picture in the final assembly. There will be more

meat and fewer wasted scenes and yawning gaps in continuity.

If we give the matter a little thought we'll find plenty of clues to guide in this filmic planning. First and most important is the audience aimed at. Oh, yes, we're all of us aiming at some audience even in the simplest "home movie"! With some it may be just the

family or the group which makes a vacation trip together. With others, the audience may widen to include friends—camera-minded or otherwise.

Still others may want a picture that will please not only the family and immediate friends, but also a larger group, such as a club. And a rare few other hobbyists—usually those lucky enough to be undertaking some really out-of-the-ordinary vacation venture—can look forward to interesting audiences of total strangers in our films.

Each of these audiences demands a different treatment. The family group may appreciate scenic shots, but if there aren't plenty of characteristic shots (preferably closeups!) of the folks they know, they'll be disappointed.

Photography First

The average group of friends is less interested in seeing people than in seeing the unfamiliar places you visit.

The club audience usually makes its first requirement good photography—the best you can deliver—but in addition most groups who meet ten or twelve times a year to look at sub-standard movies can quickly get fed up with undiluted pictorialism.

They appreciate good photography used as a vehicle for telling a story—not a scenario, but one that can be summarized as showing that somebody went somewhere, saw such-and-such places and such other (interesting) people doing these interesting things, and then came home.

The general audience wants further particulars about the unusual place you visited, and the people and their activities there. A polynesian raw fish banquet is interesting to them—especially the details of how it was prepared and how the natives eat it; the fact that you and your wife were there is purely incidental, and maybe irritating.

Each of these audiences is really asking you a question when your picture flashes on the screen. The family audience wants to know who was there with you. The friendly audience is a lot more interested in what was done.

The club audience likes a complete story of where you went, embellished, of course, with good photography. The general audience is as a rule most interested in the how of things—how Samoa looks, how the Samoans live, and so on.

Don't Overlook Family

So if you know the sort of audience most likely to see your picture you have an excellent indication as to the type of scenes deserving the most footage.

If you're shooting for the family, you can ignore a lot of things any less intimate group might demand. If you are hoping to please any wider audience, you can ignore much of the family footage. It would only have to be cut out, anyway.

All of which leads us squarely to tak-

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ing a wallop at a fault that has marred more vacation films than anything save perhaps such elementary technicalities as faulty exposure or panning. This is the inexcusable habit of attempting to compromise with these filmic genres.

Many an otherwise excellent vacation film has suffered (and its audiences with it!) because the hapless fellow who made it didn't have the wit to see he was trying to crowd two pictures into one.

We've all seen them—those nice, general-interest vacation or travel pictures which for no apparent reason suddenly sidetrack their really interesting scenic or pictorial features and bore us stiff with sequences of people we don't know and aren't interested in, doing things (usually silly!) that mean nothing to the picture as an outsider sees it.

Perhaps the total footage of such a film may run only a reel; but wouldn't it be better to have two really interesting half-reel pictures—one for the family, one for outsiders—each of which will really interest its audience, than to have one full reel which is neither fish, flesh nor filmic?

And it only takes a little advance planning—a little budgeting of filmic ideas—to prevent such an occurrence. And if the pursestrings will stand it you'll find it just as easy to plan your shooting so you will have one full reel of family film and an equal footage of general-interest production!

With that sort of planning you can start your vacation certain that you'll return with a picture that will really please your audience!

Tri-City Cinema Club

The Tri-City Cinema Club, composed of amateurs living in Davenport, Iowa, and Rock Island and Moline, Ill., elected officers for the following year at a meeting June 27 at the People's Power Company Auditorium in Rock Island.

Dr. James Dunn of Davenport was chosen president. Other officers were:

First vice president, W. W. Brubaker, Davenport; second vice president, H. J. Lytle, Davenport; secretary-treasurer, Dr. Albert N. Mueller, Rock Island.

The board of trustees is composed of Dr. Paul White of Davenport, W. L. Langwith of Davenport, and C. R. Crakes of Moline.

The meeting was the first anniversary of the club. The organization has a paid-up membership of 69.

Following the business session there was a projection of movies made at the May meeting and of the 16mm. color film "Return Trip from South America," by Mr. Langwith.

Northwest Passage Crew

M-G-M Studio has sent to the Idaho location on its "Northwest Passage" Sid Wagner, A.S.C., and Jack Smith, A.S.C. For the Technicolor company William Skall, A.S.C., and Charles P. Boyle, A.S.C., have been assigned.

Producer of Educationals Bids for Amateur Material

Stillfilm Inc., 4703 West Pico Boulevard, Los Angeles, invites amateurs making 16mm. or 35mm. educational film of marketable standard to write and tell about it. They warn not to send film first.

"Amateur photographers who have short negatives on animals, birds, travel, trains, ships, etc., anything from 25 feet up that can be included as part of a complete reel, or even those who have more footage that would make good educational material, are invited to drop us a

line, giving particulars as to contents, but not to send films until requested," declares A. F. Wilson, manager of the motion picture department.

"In other words," continues the letter, "we will purchase good negatives either 16mm. or 35mm. that we can use in the assembling of certain educational subjects."

Hoefner in Larger Quarters

Fred Hoefner, who for years has conducted a studio machine shop at 5319 Santa Monica Boulevard, Hollywood, is now situated in new and larger quarters at 915 North La Cienega Boulevard.



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Baumann Passes

Anton F. Baumann, all his adult life a member of the staff of E. Leitz, Inc., met his death in making a picture while trying to secure a "different" angle from a high position. He had just completed a lecture and demonstration tour of a number of Southern cities.

Baumann entered the employ of the firm of Ernest Leitz as a young boy, being engaged in the research department. When the Leica was introduced he at once realized its possibilities and soon devoted all of his activities in making pictures and lecturing on Leica technique throughout the world.

When color films appeared Baumann devoted much of his time to it. He projected his slides to audiences throughout the country and inspired many photographers to work with this new medium.



Anton F. Baumann

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Process Shots

(Continued from Page 366)

In many instances, as Haskin points out, it could be possible to decenter the light beams deliberately, illuminating one print most strongly at the center, the second at, say, the right side, and the third at the left side, effectively spreading the "hot spot" over virtually the whole picture area.

Wider Control

The same principle introduces a completely new range of control potentialities. It becomes entirely feasible and often desirable to vary the intensities of the three arcs individually, balancing the total output to the needs of the scene.

An even more flexible means of control is by using background prints of

several different densities to control not only screen brightness, but also contrast, gradation and shadow illumination in the projected image.

This control can be compared only to the wider control possible in balancing three-color prints as compared to the more limited printing control familiar in monochrome.

That the principle of triple process projection extends not only the physical scope of the projected background process but also the quality of the results obtained, has been amply proved by the large number of important productions both in monochrome and natural color which have been made with these equipments.

Warner Brothers' notable Technicolor productions, including "Gold Is Where You Find It," "God's Country and the Woman," "Heart of the North," "Robin Hood" and "Dodge City" owe much to the triple process projector.

Among the outstanding productions upon which Paramount has made use of its triple projection equipment may be mentioned "Spawn of the North," "Union Pacific," "Say It in French," "Artists and Models," "Geronimo," "Man About Town," "Ruler of the Seas," "The Light that Failed" and "Beau Geste" in black and white, and "Men with Wings" and at least three currently shooting Technicolor productions, including "Dr. Cyclops," in color.

Several of these could scarcely have been made without the added scope and flexibility of the triple process system. All are examples of improved quality difficult or impossible of attainment by conventional methods.

Future Advances Seen

It will be seen, therefore, that the introduction of the triple-head process projector not only advances the physical scope of projection process cinematography in black and white and in color, but also tends to improve the quality of results obtainable on process shots of more routine scope by increasing the possibilities of control, and minimizing or eliminating disadvantages heretofore accepted as inevitable, and making the composite result more convincing.

As such the new device becomes not merely a technical but an economic asset to the industry.

Cinematographers Edouart and Haskin and their staffs are therefore to be congratulated not only on the ingenuity shown in solving their immediate problems, but in giving to the industry a means of gaining greater advantage from a process which has within a short space of years become one of its most vital tools.

Jack Guerin in East

Jack Guerin, A.S.C., head of the technical department for 35mm. film for Gavaert, left the West Coast July 9 for the East. He will be away several weeks.

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Imagination Enhances Photographic Values

By Bess Foster Smith

We have heard a great deal about creative art, music, and creative literature, but so far as I have seen practically nothing much has been said about creative photography. Perhaps this is because photography is supposed only to reproduce what already exists and does not therefore really create anything.

Believing this, we do not attempt anything with creative values in our pictures. This idea was more nearly true in the early days of still pictures—the kind you find in the old family album.

Today, with so many picture contests and picture magazines, picture takers have become more artful. Moving pictures furnish one of the very best mediums for creative art and should rank along with good literature and music.

A wrong definition for creative art is probably much to blame for our wrong thinking in regard to photography. We have supposed that the creating went on in the mind of the artist or composer while he made up his picture, music, or poem out of whole cloth.

This is not necessarily true. The thing that does matter is, that he put something into his picture, poem or music that appeals to the imagination of his admirers and thus creates in those minds, through effects, much more than is actually expressed.

In other words the creating in creative art is in the processes of the minds of the "looker-oners" because of some clever twist of the wrist on the part of the artist.

Touch of Real Artist

The picture which appeared on the cover of the Saturday Evening Post nearly a year ago was only a shaggy little dog with cocked head standing outside of the closed schoolhouse door. Yet it put a whole story into the minds of every one who saw it.

One visualized not only the little master inside but felt the loneliness of both the dog and boy, and even conjured up past experiences on the subject. So as each interpreted the picture in his own version he was creating from the effect given by the artist.

With this interpretation of creative art it is easy to see how one can en-

hance the appeal of their movies by trying to cultivate the practice of putting these effects into practice on to their film.

Professional movies are well aware of this. You often say of yourself that the greater the actor the less actual acting he seems to do. Of your favorite star you will say, "He didn't really do anything. It was just a little twist of the mouth or some gesture that appealed to me."

Other actors may go through fire and water and you are not moved to tears.

A good way to become mindful of creative atmosphere is to watch for these effects in the next moving picture you see instead of letting yourself be carried away with the picture.

Study what the actors actually do. Then in your own mind determine how your conception of what they portrayed squared with what the scene actually showed.

Incident, Mood, Character

Now for the amateur moviemaker the creative atmosphere can be cultivated in the following manner. For classification we might divide effects into three classes, although in reality they always are interwoven.

(1) The effects of incident. These will stimulate the mind to create action not portrayed on the screen. For an example, a wrecked car, with liquor bottles strewn about, tells a sad story.

(2) The effects of mood; an example of this is the man trying to telephone the police and holding a gun on a burglar. His mood is shown by the fact that he points the phone at the burglar and holds the gun to his ear.

(3) The effect of character; girl in lounging pajamas smoking a cigarette while mother washes the dishes.

For these examples picked at random (you will soon notice more striking ones) we judge life and we interpret art as some phase of life.

In taking pictures of scenes strive for effects that will bring a feeling of peacefulness, grandeur, storm, hominess, loneliness—or romance—to bring out moods. In picturing persons try to get the moods or character as portrayed in some action.

In getting news or incident, try to get pictures that will show the reason or cause of the incident. When trying to stage or make a story of your home movie your ability to catch these effects will be the all important thing.

When we keep in mind these creative appeals, photography rises from its original purpose to the most creative of all the arts. It involves one of the most important principles of education: that is, that one likes and retains what he thinks out for himself, but dislikes to be preached to.

Pictures, like music, can teach in this subtle way, and like all the other arts become a great factor in shaping life.

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COLUMBIA TELLS OF CAMERA BY BROADCAST

THE Columbia Broadcasting System, from its studio in Hollywood, each Monday night at 9:30 to 9:45 broadcasts under the title of "Columbia's Camera Club." The leader of the club is Maurie Webster, described as its president, who reports that in the nine

months the program has been on the air some 5500 persons have made written application to the studio to be recorded as members of the club.

As guest speakers some of the most prominent photographic authorities on the West Coast have appeared with Mr.

Webster and discussed photographic subjects and given advice and help to listeners-in. Reached at each broadcast is the studio's west coast network.

The president notes a definite growing interest in the work being sponsored by the club, one of the chief aims of which is to extend help to the expanding mass of photographic new-comers.

Each broadcast there is present one or more persons of achievement in the field of photography or of persons who have achieved in other fields and are photographic addicts. Each Monday night, too, a resume is given of the best letters received during the preceding week which pass along to the listeners-in the experiences of the writers in the domain of gadgets or the more general field of camera and darkroom.

At the beginning of an interesting broadcast Mr. Webster described and with captivating interest a picture he had looked upon during the preceding week, a picture the photographic sponsor of which remained unidentified. But let Mr. Webster describe the subject in his own words:

Covers Lot of Ground

"Two nights ago I made a tour of the west coast. Yes, that's right, in thirty minutes, I saw more beautiful sights from Puget Sound to Death Valley than I ever dreamed existed.

"I explored the national parks and saw unusual, out-of-the-way scenes that thrilled me more than any travelogue I've ever attended. And all this because Hal, a friend of mine who bought a movie camera two years ago, set out to keep a record of the trips he made.

"His movie—in full color—was a grand example of what to do with travel pictures. He opened with a shot of his

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wife in an easy chair, reading a book about adventure in the outdoors.

"With a homemade dolly, which he'd constructed from a small platform and some heavy castors, he moved the camera in closer, until you saw a picture of a beautiful mountain scene in the book.

"The next shot looked as if it had been made in the same location. There was his wife in hiking clothes, climbing a trail to a stream where she paused for a drink of water. He identified the location with a closeup of a trail sign pointing to Bridal Veil Falls in Yosemite National Park. Then we saw their campsite in the valley, the laughing vacationists in Camp Curry.

Reflected Thrill

"Everywhere there were people to keep the picture interesting, while the glorious blues and greens and reds of the mountains and sky gave a thrill nearly as great as actually being there.

"In Washington Hal visited Mount Rainier with its lovely Paradise Valley. Luck was with him and he came back with several feet of film showing a waddling bear cub exploring the contents of their lunchbox. What the film missed, though, was the appearance of the mother bear just as Hal was about to eject the baby bear from the food supply. Nothing serious happened, that is, not much.

"Another picturesque stop was Pyramid Lake, in Nevada, where Hal assures me fifty pound trout are not at all unusual. And since he reinforced his story with a color shot of one as he pulled it out of the water I'm inclined to believe him.

"One of the most interesting bits of the film showed their trip by pack train up the side of rugged old Mount Whitney—accessible today as never before.

Hal caught the action of their guides in loading the equipment on the pack mules.

"He had a striking shot of the train, looking down on them as they came around a horseshoe turn. Another time he followed them as they climbed up the crest of a rocky ridge, silhouetted against the deep blue of the sky.

Real Elevation

"But the crowning achievement of that trip was a never-to-be-forgotten panorama, which he shot while perched on the crags, nearly fourteen thousand feet up. From the cathedral-spired dome of Mount Whitney, highest point in the United States, he slowly swung the camera around, glimpsing the peaks of the neighboring ranges, and finally looking afar off to the Salton Sea, a hundred miles away but clear and distinct through the mountain air, 280 feet below sea level.

"During the entire film Hal made use of the little tricks that mean so much to good home movies. Whenever possible he included objects in the foreground to give depth to his landscapes. He had people in his pictures, but they were always doing something that seemed to fit in with the surroundings. The action wasn't stiff and obviously planned.

"There were hiking, fishing, driving,

camping, all the things that spell outdoor fun. There were signs and well planned shots, that made the use of titles unnecessary. The entire film told a story—a tale of adventure right here in the Western part of our United States, of exploration into little known spots—unusual curiosities that really surprised me. Is it any wonder that I hauled out the maps and travel folders yesterday and started planning a camera vacation for this summer?"

New Viewfinder Objective

A new two-inch viewfinder objective for use with available two-inch telephoto lenses is announced by Bell and Howell for use in the Filmo Aristocrat Turret 8 movie camera. The two-inch lenses with the new viewfinder objective permit 8mm. film users to shoot distant scenes, recording images sixteen times as large as with the regular half-inch lens.

The new two-inch finder objective for the Turret 8 is priced at \$5.50.

Of the 1506 motion pictures imported into Ireland last year, American pictures accounted for 82 percent, British pictures 17 percent, with the remaining 1 percent made up of German, French and Irish films.

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The new lens extension tube outfit adds range and versatility to the Magazine Cine-Kodak, with which it is pictured here. Tube kit includes four tubes, and supplementary fittings as shown.

Opens New Filming Fields for Cine-Kodak Magazines

New fields in small-object photography are opened up for Magazine Cine-Kodak owners by a set of lens extension tubes for this camera, just announced by Eastman.

The tubes may be used singly, to obtain extra extension of $\frac{1}{2}$, 1, 2 or 4 inches, or fitted together to obtain a maximum added extension of $7\frac{1}{2}$ inches. With all tubes used together, the standard 1-inch f.1.9 lens covers a field about $3/64$ inch wide.

By means of the extension tube kit, tiny objects can be pictured several times actual size on the film—and on the screen they appear enlarged hundreds of

times. In addition to the 1-inch f.1.9 any accessory lens for the camera fits the lens tube adapter.

Retail price of the tube kit, including instructions and exposure tables for use of the outfit with black and white film and Kodachrome, is \$27.50. The tubes must be used with the focusing finder for the Magazine Cine-Kodak.

New B & H Lens Attachment

For some time the wide-angle lens has been an accessory much demanded for 8mm. Filmo cameras. Responding to this demand Bell and Howell now announces the Hyper Cinor lens attachment which serves two valuable purposes. It doubles the lens angle, so that the area photographed is twice as wide and twice as high as that of the lens used without it. Also, it includes provision for focusing. When normal use of the lens is desired the attachment is unscrewed and removed with a few quick turns.

An example of use: When using the normal lens the camera must be about twenty feet away to photograph a person six feet in height. With the Hyper Cinor lens attachment in place the camera need be only half as far away.

Central Camera's Catalogue

The Central Camera Company, 230 South Wabash avenue, Chicago, has issued its Photographic Almanac for 1939. It consists of 258 pages and covers and is fully illustrated. The pages are approximately 6 by 9 inches. It does not seem possible that there is any essential photographic item unrepresented in all these pages, and probably there is not.

It is surely a complete book.

New RCA Catalog

An attractive 56-page catalog containing a complete listing of all RCA sound equipment for a wide variety of applications in the industrial, entertainment and educational fields has been announced by the Commercial Sound Section of the RCA Manufacturing Company.

All items in the extensive line of RCA sound equipment are indexed and cataloged with photographs, prices, specifications and general descriptions including possible uses. In addition, a compact guide for prospective buyers is included in an easy-to-read chart of six basic sound systems which, with extra equipment for special requirements, cover every standard application.

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Cinema Club of San Francisco

The regular monthly meeting of the Cinema Club of San Francisco was held Tuesday evening, June 18 at 1355 Market street.

By way of entertainment a showing of the 16mm. Kodachrome sound film "Vacation Adventureland" had been arranged through the courtesy of the Great Northern Railroad.

Club member Robert McCollister talked on his recent trip through some of the Los Angeles movie equipment manufacturing plants with a demonstration of pieces of new equipment.

There was also a showing of a 16mm. Kodachrome film on the subject of the manufacture of a pair of spectacles.

DENIS DONOHUE, President.

New Focusing Finder

Slipped into the Filmo 141 motion picture camera in place of the film magazine, a direct focusing finder announced by Bell and Howell permits both precise visual focusing and accurate framing of any subject, near or far, through any photographic lens.

The image on the ground glass is up-

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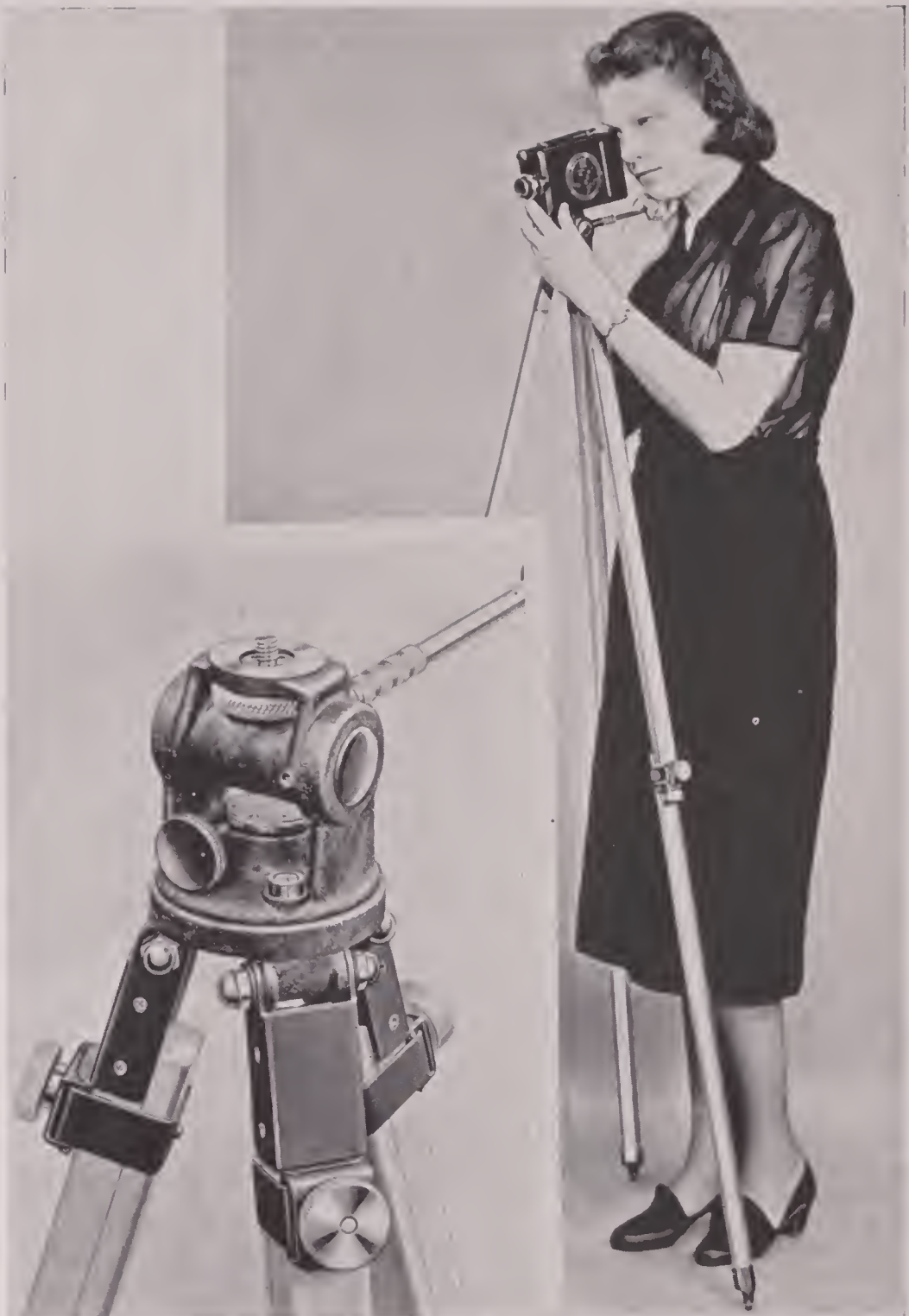
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right, and is magnified ten times so that no adjustment in magnifying power is needed for critical work. This new focusing finder is particularly valuable for closeups, small objects, titles, maps and animated cartoons when using the Filmo 141 magazine loading camera.

Since the 141 Camera may be reloaded while it is firmly mounted on a tripod, it follows that the focusing finder also may be used without removing the camera from the tripod head.

New Bell & Howell lightweight Tru-Pan Tripod, fitted with stand and B.&H. pan-and-tilt head (inset).

Bell and Howell Issuing Tru-Pan Tripod for 8mm.

Although priced in keeping with the popular economy of 8mm. moviemaking, the new Tru-Pan Tripod, announced by Bell and Howell as designed especially for 8mm. moviemakers, is said to provide the all-around utility of the more costly all-metal tripods.

The smoothly operating pan-and-tilt head is the same as that employed on the Bell and Howell All-Metal Tripod. The cost-saving is in the two-section, selected hardwood legs which are strong and rigid, and may be adjusted to many different lengths. Both pan and tilt may be operated or locked independently.

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Documentary No. 1

(Continued from Page 343)

tops in the memory of this writer: that one in which Renee Adoree follows the lorry and struggles as she tries to clamber aboard; and loses out. What she might have done with that sequence had she been given the added pull of sound is hard to foretell.

To demonstrate what sound brought to the screen the editors chose Paul Muni in a sequence of "Zola." It is near the end of the story, that point wherein Zola lays in the balance all he may have achieved in forty years that Dreyfus is innocent.

In a press book issued by the March of Time we find the statement: "These scenes, recreating today the performances of famous actors, were painstakingly chosen by the editors of the March of Time after months of research in the Film Library of the Museum of Modern Art in New York."

The editors have chosen wisely and deserve the applause and the gratitude of those who have been nearest to the events that have been so impartially reviewed.

STOPPING off in Hollywood on his way home to Chicago from a visit to San Francisco, William C. DeVry, son of Herman A. DeVry, motion picture equipment manufacturer, took occasion to meet various film heads and cameramen using DeVry products. He arrived at the time as a new line of motion picture equipment, including 35mm. and 16mm. sound cameras, the new 16mm. heavy duty arc lamp sound projector as well as a 16mm. single case sound projector and a new 35mm. De Luxe theatre projector.

The equipment is on display at the new and larger DeVry Hollywood branch office at 5628 Hollywood Boulevard. The DeVry Corporation announces it will release in the near future a series of educational sound film, it having recently acquired the rights to three million feet of institutional film.

The company also is preparing to introduce this fall two major motion picture equipments.

Minneapolis Cine Club

The officers for 1939-40 of the Minneapolis Cine Club are: President, Harold Bronson; first vice president, Ed Johnson; second vice president, Dr. Len Martin; secretary, Dr. Reinhold Ericson; treasurer, Fred Grabow; social chairman, Ray Kullberg. Executive Board, Harold Bronson, Dr. R. M. Ericson, W. R. Everett, Ed Johnson, Dr. Leonard Martin, Leslie Olsen, Carroll Davidson, F. C. Grabow, Carroll K. Michener. Editor Cine Clubber, Rome A. Riebeth.

New York 8mm.

The June meeting of the New York 8mm. Club continued the policy of screening outstanding films in both 8mm. and

16mm. and featured two 16mm. prize winners: T. J. Courtney's "Riches from the Sea" and Fred C. Ells' "Still Waters." The club interchange feature was the 400-foot 8mm. film "Youth," by A. O. Jensen of the Seattle 8s.

New York member Vincent McGarrett presented a talk on "Filters," illustrated by cut-out cards to show the effect of putting a filter before an emulsion with stated color sensitivities.

The meeting concluded with the showing of "The Clock Strikes 12," by Member Silverman. Visitors to the New York Fair are invited to attend the meetings.

VINCENT MCGARRETT.

Introduction to Movie Making

(Continued from Page 362)

much of your time and footage. While some folks don't give a hang for shooting buildings or market scenes, there are others who have developed a genuine fondness for recording different types of architecture or close-upping people found in foreign countries.

One Thing At a Time

My hankering happens to be toward filming wildlife and travel and shooting action stuff on hunting and fishing, neither of which sports I guess I am much good at.

I get a bad case of buck-fever-itis every time a mallard comes over, and I usually spend the rest of my time wrestling with backlashes or picking trout flies out of droopy willows.

Maybe it is just as well, because I have found that it is pretty hard to shoot movies and enjoy your favorite

sport all at the same time. One or the other is bound to suffer.

If you want to make a golf movie, take along a tripod instead of your clubs, and spend your moments framing nice scenics along the fairway or close-upping the excellent putting of your golfing pals.

Dope out the continuity or work up a scenario well in advance, and adapt it to conditions as they present themselves. As a result, your finished product will hold far greater pleasure for future audiences than just a straight camera record of the day's game.

As your film library begins to grow, look for novel ways of editing and titling your odds and ends footage. To increase the enjoyment of home movies, try synchronizing reels to appropriate music and sound effects.

Recordings may be had to express every picture mood, and sound discs are available varying from the crackle of burning wood to the bellowing of a steamer whistle.

Actually, with music and sound properly synchronized, it is possible to create effects even more realistic than if you were filming with a sound track camera right out on location.

Two RCA Men Promoted

Appointment of Fred W. Wentker as assistant Photophone division manager and of W. L. Jones as national service manager has been announced by the RCA Manufacturing Company. Wentker was formerly assistant manager of the service division, while Jones has been in charge of RCA Photophone service activities.

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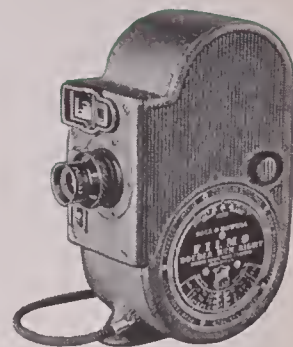
As the T-H 12½ mm. F 2.5 lens diaphragm closes fully, cameras using this lens are ready for making laps, dissolves, etc., when the new units are added. However, a unit for fading in or out automatically with various lenses will be available soon.

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An exclusive "positive" viewfinder shows a magnified, sharply outlined image of the field which will appear on the screen—and it is *exact* even if you fail to center your eye at the eyepiece. Straight-through-the-lens critical focuser, four speeds including slow motion, single-frame exposure, automatically reset footage dial, and complete exposure guide are other features. See the Filmo Turret 8 at your dealer's.

With 12½ mm. F 2.5 lens, only \$140.

Illustration above shows new film rewinding button, described at left, above, which is extra, optional equipment.

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Filmo 141 is a superb new 16 mm. camera designed for those who want the best. It operates almost automatically, prevents common mistakes, and provides the versatility you've been looking for.

Filmo 141 has four speeds, including slow motion, and single-frame exposure. Its lens and finder objective unit are instantly interchangeable with a full range of telephoto, wide angle, and speed lenses and matching finders.

Off-center pictures are eliminated by Filmo 141's "positive" viewfinder. Other features include: a rubber eyeglass guard, starting button lock, built-in exposure guide, pocket-fitting size. See Filmo 141 at your dealer's. You'll find it's as attractive as it is efficient. With Taylor-Hobson 1-inch F 2.7 lens, now only \$115.

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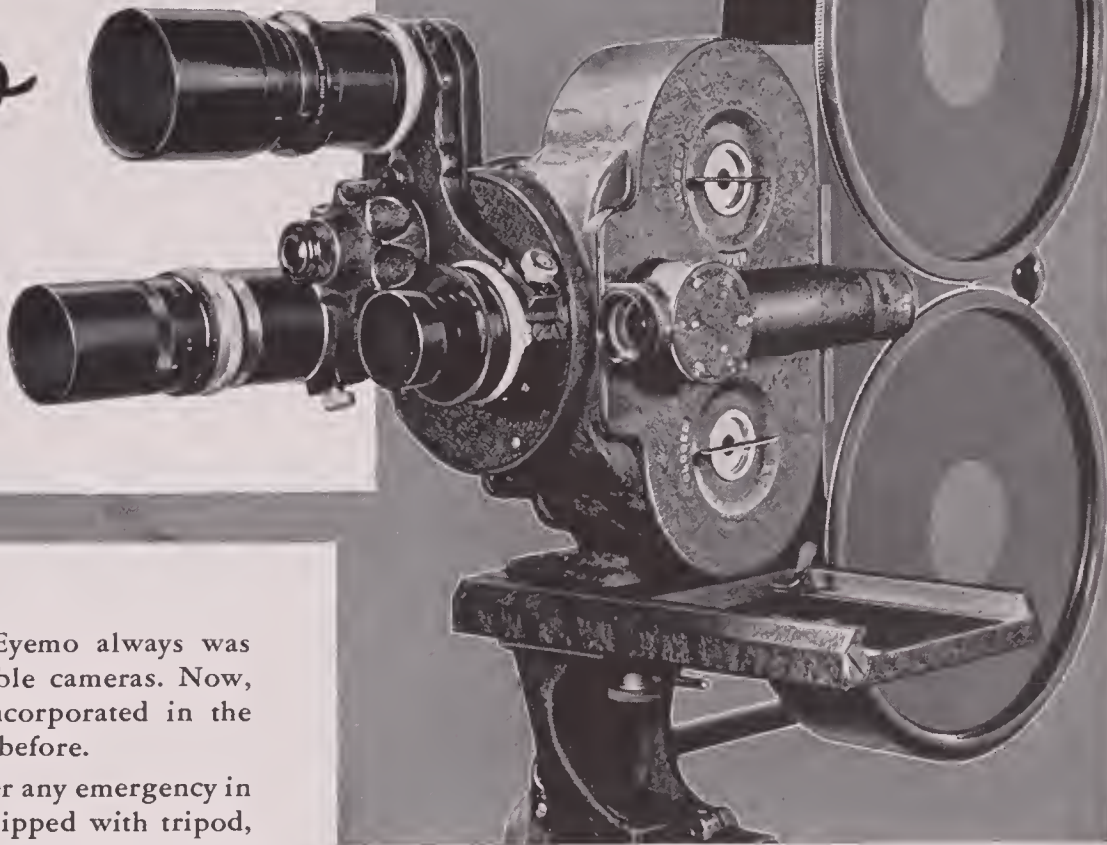
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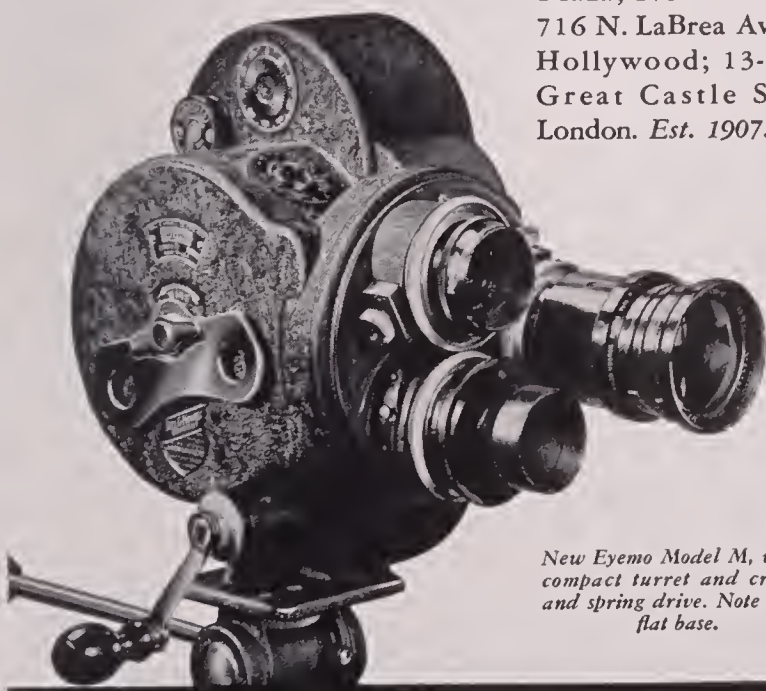


New Eyemo Model Q, equipped with external 400-foot magazine and off-set turret. Note new flat base.

THE versatile Bell & Howell Eyemo always was superior in the field of portable cameras. Now, with many important changes incorporated in the new models, it is even better than before.

Eyemo is instantly ready to master any emergency in the studio or afield. It can be equipped with tripod, 400-foot magazines, electric drive (synchronized with a sound recorder), and other studio camera accessories. Or it can be quickly stripped down to a light, compact, spring-driven hand camera.

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New Eyemo Model M, with compact turret and crank and spring drive. Note new flat base.

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Front Cover

MERRITT GERSTAD, A.S.C., and LORETTA YOUNG. Loretta supplied beauty and acting and Merritt enhanced her contributions to Walter Wanger's "Eternally Yours" by his exceptional lighting and photography. A series of "choker" animated portraits used in a montage are said to be among the most beautiful closeups of the celebrated star ever made.

Wanger complimented Gerstad by giving him a new year's contract. Gerstad was also responsible for the excellent photographing of Ann Sheridan in Wanger's "Winter Carnival," which launched la Sheridan's career as a full-fledged star. One of the real veterans of motion pictures, Gerstad has been a first cameraman twenty-five years and was one of the first Hollywood cinematographers to work with color.

Photo by Frank Powolny



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Something to Remember

THERE was a preview in Los Angeles August 21 which was unusual in several respects. The finely photographed picture was "The Star Maker," and those who appeared on the screen were set around Bing Crosby. There was Walter Damrosch, 77-year-old orchestra leader, venerable, impressive, human, lovable, efficient.

In all the years in which he has been in the public eye, and despite the many tempting offers which must have been made him, here was his first public screen appearance. And with his debut came also that of another, of one at the other end of the age scale. It was the screen debut of a singer, of Linda Ware, a 14-year-old wonder on whom the dean of orchestra leaders gallantly, almost reverently, bestowed words of high praise.

The setting was one to remember. Already behind the house was a night that was rare in the way of entertainment. There had been laughter, much, and there had been moments when the lump in the throat was at least perceptible. The boys and girls had put on their acts, had sung their songs and done their dances. The marvelous voice of Linda Ware had thrilled the house, with operatic music and popular music. The time had come when the show could be put to bed and everybody would be happy.

Instead in the course of the smooth running of the show it came to pass that Linda should sing accompanied by the Los Angeles Philharmonic Orchestra, with Walter Damrosch as conductor. The soloist came on the stage, attired in a long and simple gown. The orchestra was in its places, the leader by his stand. The leader greeted the child, greeted her with both hands.

The leader waved his baton, the musicians responded, and the child began to sing—in perfect ease and assurance. The voice rose and fell, with the marvelous notes flowing in a steady and unhurried and effortless stream.

As the climax was surmounted, with the same lack of effort on the part of the young singer, while the house was relieving its tension by sustained applause, the veteran leader turned to the singer. Again he put out both hands. As he grasped the child's hands he leaned over and implanted a kiss on the brow of the singer.

It was a moment neither of the two participants nor any member of the applauding house would forget.

NOT the least of the finer sides of the cine club is that where the business meeting is merged into a home gathering, where continually is heard "Will you have another hamburger?" or "How about a little more

By George Blaisdell

punch?" . . . and where the parliamentarian for once is silent.

Such a party was that in which members of the Los Angeles Cinema Club on the evening of August 1 gathered at the hillside home of Major F. J. Rutland. At the rear of the house and on the level of it was a good-sized swimming pool. At the base of the steep thirty-foot rise to the tennis court was an open fireplace, built for just such occasions. There was a great coal fire underneath, hemmed in by high sides. A great iron plate covered the coals.

When darkness had descended, when the lights from the city below were brilliantly present, when no longer was there any response to seductive suggestions as to food and drink, the group ascended to the tennis court. There the party looked on a Cinematographer prize winner of 1932, "I'd Be Delighted To," and on Kinney Moore's "Prize Winner" of 1937. Then Father Hubbard's "Majesty of Alaska" in infra-red entertained the party, followed by Major Rutland's own color 16mm. picture in Kodachrome taken in England in 1937. It was an unusual blending of entertainment.

Then there came swimming on the main deck and badminton and related games "topside." It was an all-around evening and greatly enjoyed.

READERS of this issue will note the illustrations from the camera of Jack Kuhne in the center of this book. It is possible they also may have been so fortunate as to have seen them on the screen sometime within the last month. Caught in the Magic Carpet at the Hollywood News Reel Theatre something like a month ago this writer was impressed by the remarkable beauty of the spectacular pictures shown.

He believed also these pictures would be admired by the readers of this magazine. With this belief in mind he got busy. Through the courtesy of Rodney Bush, exploitation manager of Twentieth Century-Fox Film Corporation in New York, we are enabled to show you what may be seen in these pages.

Those who saw them can tell of their photographic beauty. If altitude gives clarity then shooting from 25,000 feet he certainly had it. And he got it. Another thing it is quite certain our readers will agree with us on and that is the photograph of Jack Kuhne:

It is a photograph and more. Certainly it might be the creation of a sculptor who designed a heroic figure of a cameraman on adventure bent—and found it here.

PARAMOUNT showed the latter part of August "Range War," one of Harry Sherman's superior brand of Western product that permitted Russell Harlan, A.S.C., a chance more than casual to display his western country. There were mountains and snow, a lot of them, in the background, and smiling country in the foreground. And the photography in them was good to look on.

As one of the many who continue year after year to love the western picture, to love it without thinking it necessary to apologize to anyone or anybody for lavishing that affection on it, it is good to find some one who is making 'em better as time goes on, and who keeps on making them.

And the brand of men Producer Sherman puts into his cast speaks well for the quality of his product—even as acting quality counts in every picture—men from William Boyd down the line whose names often are found in casts other than westerns.

PARAMOUNT is releasing "This Man Is News," a picture that is British made all the way. The story is around a newspaper, with comedy and tragedy in abundance. The majority will be inclined to say that it couldn't happen, yet they will probably concede on being pushed that it all is not impossible.

Its finish brought applause from a semi-preview house, which in itself is something. Three persons in particular were so good there is room on any one's list for them—Barry K. Barnes as Simon Drake, a reporter; Valerie Hobson as his wife, Pat—and she, while not a newcomer, seemingly is young and certainly is vitally refreshing, and Alastair Sim as MacGregor, the city editor who with suddenness was catapulted from the depths of despair to the heights of triumph—and then again to the depths.

The alternation of melodramatic twists for the period of the play of four or five days keeps the audience tense—which is entertainment plus. "This Man Is News" is worth seeing.

STRANGE indeed is RKO-Radio's "Nurse Edith Cavell." It is a story practically without a laugh. Yet it is a story that is gripping though grim, one in which it builds steadily toward the inevitable, toward the inescapable.

Anna Neagle plays the part to the hilt—thinking only of the part, not of herself. She moves swiftly, yet unhurriedly. She is untheatrical, yet always displays a full realization of her fate.

There is a splendid cast around her. It will add to the acclaim that goes out to the player and the play.

(Continued on Page 410)

DENSITOMETRY AND ITS APPLICATION TO MOTION PICTURE LABORATORY PRACTICE

By EMERY HUSE and GORDON CHAMBERS
Motion Picture Film Department Eastman Kodak Company,
Hollywood, California

In Three Articles—Article I

ONE of the most important steps of sensitometric control in the processing of motion picture film in the modern laboratory is the measurement of the density values of the steps of the sensitometric strips used. These same methods are applied to sound negatives and prints as the measuring instruments are the same. While there exists a great deal of information in the literature regarding this general subject, the paper by Jones¹ being particularly comprehensive, the discussions are general in nature and they have not attempted to deal specifically with the daily problems associated with laboratory use of densitometers.

While the present discussion includes some theoretical aspects of the subject, as have seemed necessary for a clear understanding, it is the primary purpose of this paper to discuss the instruments used, their applications and limitations, and the precautions to be observed in order that the values obtained may be interpreted correctly.

A. Characteristics of the Material to Be Measured

It is well known that the developed photographic image is composed of minute silver particles and that light transmitted by such a deposit is scattered, a condition which is not true of such materials as dyed neutral gray filters which transmit a light beam without altering its size or direction but diminish its intensity only.

This scattering power of a photographic deposit is very important and must be taken into consideration in the design or use of any instrument for

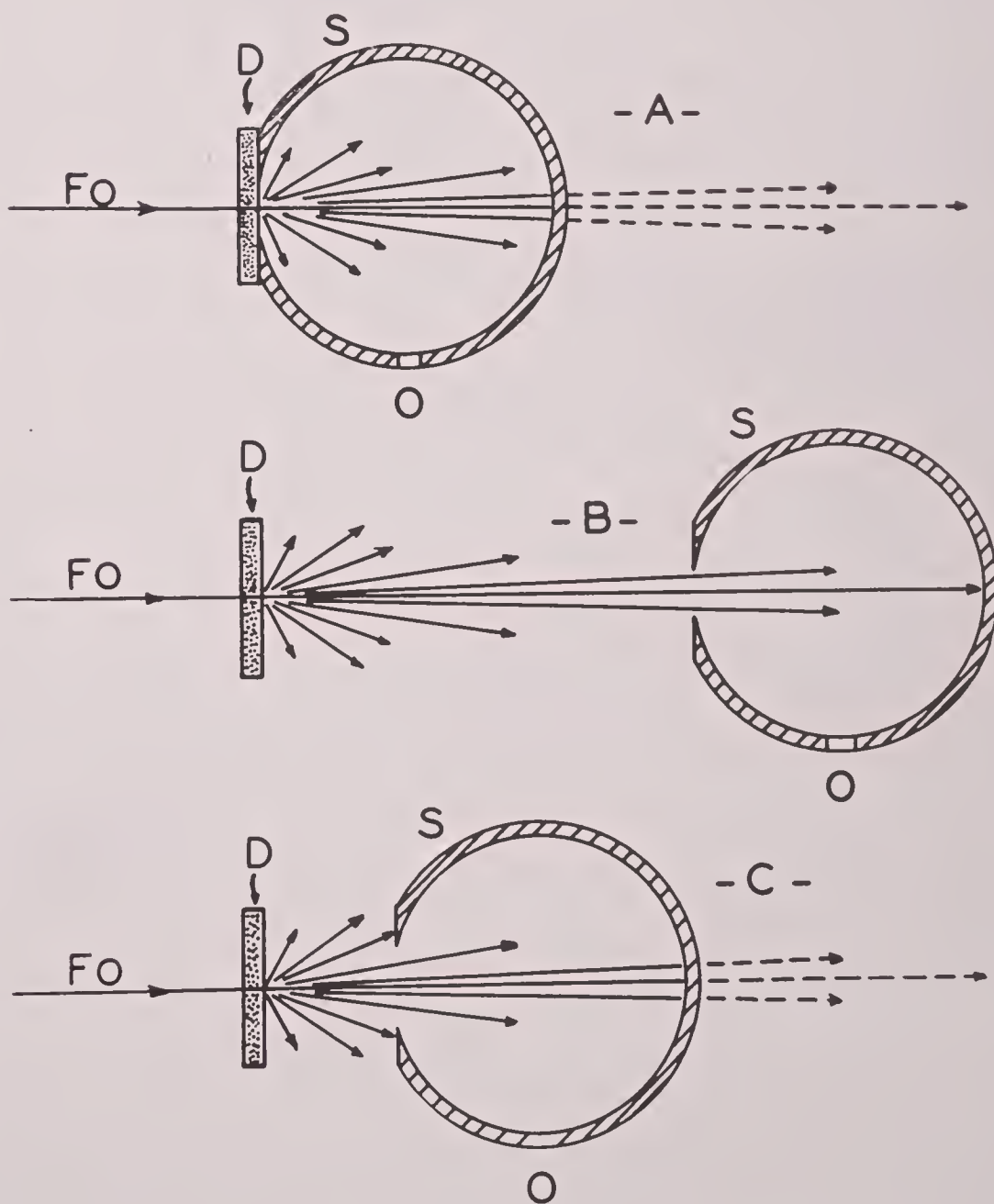


Figure 1

TABLE 1

% Trans	0	.1	.2	.3	.4	.5	.6	.7	.8	.9
0		3.00	2.70	2.52	2.40	2.30	2.22	2.15	2.10	2.05
1	2.00	1.96	1.92	1.89	1.85	1.82	1.80	1.77	1.74	1.72
2	1.70	1.68	1.66	1.64	1.62	1.60	1.59	1.57	1.55	1.54
3	1.52	1.51	1.50	1.48	1.47	1.46	1.44	1.43	1.42	1.41
4	1.40	1.39	1.38	1.37	1.36	1.35	1.34	1.33	1.32	1.31
5	1.30	1.29	1.28	1.28	1.27	1.26	1.25	1.24	1.24	1.23
6	1.22	1.21	1.21	1.20	1.19	1.19	1.18	1.17	1.17	1.16
7	1.15	1.15	1.14	1.14	1.13	1.13	1.12	1.11	1.11	1.10
8	1.10	1.09	1.09	1.08	1.08	1.07	1.07	1.06	1.06	1.05
9	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.01	1.01	1.00
10	1.00	1.00	.99	.99	.98	.98	.97	.97	.97	.96
11	.96	.95	.95	.95	.94	.94	.93	.93	.93	.92
12	.92	.92	.91	.91	.91	.90	.90	.90	.89	.89
13	.89	.88	.88	.88	.87	.87	.87	.86	.86	.86
14	.85	.85	.85	.84	.84	.84	.84	.83	.83	.83
15	.82	.82	.82	.82	.81	.81	.81	.80	.80	.80
16	.80	.79	.79	.79	.78	.78	.78	.77	.77	.77
17	.77	.77	.76	.76	.76	.76	.75	.75	.75	.75
18	.74	.74	.74	.74	.73	.73	.73	.73	.73	.72
19	.72	.72	.72	.71	.71	.71	.71	.71	.70	.70
20	.70	.70	.69	.69	.69	.69	.69	.68	.68	.68
21	.68	.68	.67	.67	.67	.67	.67	.66	.66	.66
22	.66	.66	.65	.65	.65	.65	.65	.64	.64	.64
23	.64	.64	.63	.63	.63	.63	.63	.63	.62	.62
24	.62	.62	.62	.61	.61	.61	.61	.61	.60	.60
25	.60	.60	.60	.60	.59	.59	.59	.59	.59	.59
26	.58	.58	.58	.58	.58	.58	.57	.57	.57	.57
27	.57	.57	.57	.57	.56	.56	.56	.56	.56	.56
28	.55	.55	.55	.55	.55	.54	.54	.54	.54	.54
29	.54	.54	.53	.53	.53	.53	.53	.53	.53	.52
30	.52	.52	.52	.52	.52	.52	.51	.51	.51	.51
31	.51	.51	.51	.50	.50	.50	.50	.50	.50	.50
32	.49	.49	.49	.49	.49	.49	.49	.49	.48	.48
33	.48	.48	.48	.48	.48	.47	.47	.47	.47	.47
34	.47	.47	.47	.46	.46	.46	.46	.46	.46	.46
35	.46	.45	.45	.45	.45	.45	.45	.45	.45	.44
36	.44	.44	.44	.44	.44	.44	.44	.44	.43	.43
37	.43	.43	.43	.43	.43	.43	.42	.42	.42	.42
38	.42	.42	.42	.42	.42	.41	.41	.41	.41	.41
39	.41	.41	.41	.41	.40	.40	.40	.40	.40	.40
40	.40	.40	.40	.40	.39	.39	.39	.39	.39	.39
41	.39	.39	.39	.38	.38	.38	.38	.38	.38	.38
42	.38	.38	.38	.37	.37	.37	.37	.37	.37	.37
43	.37	.37	.37	.36	.36	.36	.36	.36	.36	.36
44	.36	.36	.35	.35	.35	.35	.35	.35	.35	.35
45	.35	.35	.34	.34	.34	.34	.34	.34	.34	.34
46	.34	.34	.33	.33	.33	.33	.33	.33	.33	.33
47	.33	.33	.33	.32	.32	.32	.32	.32	.32	.32
48	.32	.32	.32	.32	.32	.31	.31	.31	.31	.31
49	.31	.31	.31	.31	.31	.31	.30	.30	.30	.30
50	.30	.30	.30	.30	.30	.30	.29	.29	.29	.29
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9

measuring its transmission. During recent years numerous workers have investigated the optical problems associated with the measurement of transmission of photographic deposits and a number of instruments are available commercially for this work.

However, it will be found that the values obtained by measurements on instruments of various types do not always agree.

B. Definitions of Common Units

The result of a measurement of the light absorption of a silver deposit may be expressed in one of three ways. It may be written as the *transmission* (T) and in this form is usually given in per cent. The transmission is the ratio of

the emergent light to the incident light. Since the transmission becomes less as the amount of silver becomes greater, the term *opacity*, (O), is sometimes used. Opacity is the reciprocal of the transmission, 1/T. In addition to these two terms, Hurter and Driffeld² introduced the word *density* which they defined as the common logarithm of the opacity or log 1/T. The following tabulation shows the relationship between a series of these values:

Trans- mission	% Trans- mission	Opacity	Density
1	100	1	0.0
0.5	50	2	0.3
0.1	10	10	1.0
0.01	1	100	2.0
0.001	0.1	1000	3.0

The effect of superposing two or more silver deposits would be obtained by multiplying together their separate transmissions or their opacities or adding their individual densities, if the effect of interreflection between their surfaces is neglected. A more complete table showing the relationship between density and transmission is given in Table I.

In most cases in motion picture practice the unit density is used. The characteristic curve of a photographic material is usually represented graphically by the relationship between density and the logarithm of exposure. This curve when plotted is a visual expression of the useful practical characteristic and is known as the "H & D" curve after Hurter and Driffeld, who first used it.

Since this curve is so important in technical photographic work, it is obvious that the measurement of density is one of the fundamental bases of photographic investigation. Although international standards exist for almost all the other units used in photography, as the meter for distance, the candle for intensity, and the second for time, no such standard exists by which the apparently simple value *density* may be determined.

C. Optical Systems for Density Measurements

That this is so is due entirely to the profound effect upon an optical system exerted by a photographic deposit consisting, as it does, of discrete particles of silver. The size of these particles may vary from those having a diameter

Photographers Cruising Northward

(From the July Movie News, official organ of the Australian Amateur Cine Society)

The big gathering of photographers, from Sydney and neighboring States, left in the R.M.S. Strathaird for Port Moresby on Friday, 23rd ult., amid scenes of excitement and enthusiasm.

So far as numbers are concerned, the cruise, in which the A.A.C.S. has been closely interested, is a decided success.

We learn that the busiest man aboard is Mr. H. Mallard, who has assumed control of the party. The day after departure while the steamer was heading northward, Mr. Mallard got all photographers together and after introduction and a friendly talk on the possibilities of the trip, badges were handed around.

On these was inscribed "Port Moresby Photographic Cruise 1939"—blue badges for "still" and red for cine workers. This badge will enable those with common interests to work in together.

For excursions ashore at the port of call, charabans will display blue and red ribbons so that mutually interested parties may travel together.

It is more than probable that the A.A.C.S. will be interested in assisting to promote another cruise about this time next year.

of several millionths to those less than one ten millionth of an inch.

Let us imagine a simple optical system for measuring transmission. From a light source, such as an incandescent lamp, light, or flux as it is termed by the physicist, is obtained. We also have a means of collecting this light such as a hollow ball or sphere having an opening on one side through which the flux may enter. Such a condition is illustrated in Figure 1.

The incident light is represented by F_0 , the hollow sphere by S and the density to be measured by D . If we place the emulsion surface against the opening in the sphere, as in Figure 1A, all the light coming through the emulsion, the emergent flux, will be collected by the sphere. The arrows in this figure indicate the direction of the scattered light and by their length the relative amount in each direction.

Let us now move the sphere away as shown in Figure 1B. The scattering of light by the density has not changed and so the sphere collects only that portion emerging on the axis.

Two completely different measurements of the transmission have now been made. That illustrated in Figure 1A, where all the transmitted light is collected by the sphere, results in a density value, when calculated from the transmission, which is called the *diffuse density*.

The measurement obtained by an optical system such as that in Figure 1B results in a lower value for the transmission because less of the emergent flux is collected. The density value derived from this measurement would be

Cuba Providing Money For Benefit of Local Pictures

There has recently been introduced into the lower branch of the Cuban Congress a bill providing for a tax upon motion picture distributors or producers of 33 per cent of gross box office receipts in Cuba of every film shown in the Cuban national territory, according to a report received in this Bureau from the office of the American Commercial Attache at Havana.

Proceeds of this tax would provide prizes to Cuban film producers, authors and composers, as well as an annual subsidy of \$18,000 for a Cuban theatrical company.

Designed to restrain the outflow from Cuba of film rentals claimed to aggregate millions of dollars, the bill limits the film rental payable to foreign producers or distributors to not more than 40 per cent of gross entrance receipts of the individual films.

Other sections of the bill would require that within fifteen days of enactment into law movie impresarios must submit to the Secretary of Commerce a list of prices of admission which may be revised only once a year with a month's advance notice to the Secretary of Commerce.

TABLE I—Concluded

	%	Trans	0	.1	.2	.3	.4	.5	.6	.7	.8	.9
51	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.28
52	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28
53	.28	.28	.27	.27	.27	.27	.27	.27	.27	.27	.27	.27
54	.27	.27	.27	.27	.26	.26	.26	.26	.26	.26	.26	.26
55	.26	.26	.26	.26	.25	.25	.25	.25	.25	.25	.25	.25
56	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.25	.24
57	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24	.24
58	.24	.24	.24	.23	.23	.23	.23	.23	.23	.23	.23	.23
59	.23	.23	.23	.23	.23	.23	.23	.22	.22	.22	.22	.22
60	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
61	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21	.21
62	.21	.21	.21	.21	.20	.20	.20	.20	.20	.20	.20	.20
63	.20	.20	.20	.20	.20	.20	.20	.20	.20	.20	.19	.19
64	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19	.19
65	.19	.19	.19	.19	.18	.18	.18	.18	.18	.18	.18	.18
66	.18	.18	.18	.18	.18	.18	.18	.18	.18	.18	.17	.17
67	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17	.17
68	.17	.17	.17	.17	.16	.16	.16	.16	.16	.16	.16	.16
69	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16	.16
70	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15	.15
71	.15	.15	.15	.15	.15	.15	.15	.14	.14	.14	.14	.14
72	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14	.14
73	.14	.14	.14	.13	.13	.13	.13	.13	.13	.13	.13	.13
74	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13	.13
75	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12	.12
76	.12	.12	.12	.12	.12	.12	.12	.12	.12	.11	.11	.11
77	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
78	.11	.11	.11	.11	.11	.11	.10	.10	.10	.10	.10	.10
79	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
80	.10	.10	.10	.10	.09	.09	.09	.09	.09	.09	.09	.09
81	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09	.09
82	.09	.09	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
83	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
84	.08	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
85	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
86	.07	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
87	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
88	.06	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
89	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
90	.05	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
91	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04	.04
92	.04	.04	.04	.03	.03	.03	.03	.03	.03	.03	.03	.03
93	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
94	.03	.03	.03	.03	.02	.02	.02	.02	.02	.02	.02	.02
95	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
96	.02	.02	.02	.02	.02	.02	.02	.01	.01	.01	.01	.01
97	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
98	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00
99	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9		

called the *specular density*. Obviously the specular density is higher than the diffuse value.

In Figure 1C is represented an intermediate condition where part of the scattered light is collected together with all of that portion along the axis and such a measurement is said to be "quasi-specular." If we were to imagine that the sphere in these diagrams represented a photo-electric cell which was connected to a meter of some sort, we would get the largest deflection for condition A, a small one for condition B, and some intermediate value for C which would depend upon the distance from the given density to the opening or window of the cell.

Figure 1A represents the condition during contact printing from a nega-

tive, as all of the light passing through the negative emulsion acts upon the print material. Figure 1C represents what happens in enlarging where the lens collects only part of the total amount of light coming through the emulsion of the negative.

Because a very slight departure from the ideal condition expressed in Figure 1A, where all of the emergent flux is collected, will modify the results toward condition C and because extreme care must be taken to exclude all scattered light in condition B, it is easily seen that the design of an instrument or densitometer to perform either A or B, each an ideal condition, is very difficult.

In general it is in the failure to attain these ideal conditions that the reason for disagreement between various

types of densitometers is found. A more detailed and complete discussion of diffuse and specular density together with results of measurements on various films over a range of values is given by Tuttle³. In that paper is discussed the theoretical relationship between the two values and it is pointed out there that this is not strictly a linear one.

Usually it is the diffuse density value which it is desired to obtain. In special cases, such as in sound projection where a definite optical system is used, the density should be measured actually in place in the system employed. The density so determined should be indicated by a suitable term, such as that commonly employed in the sound field,

"projection density," in order to distinguish it from the diffuse density commonly used in the laboratory.

Where no such distinguishing label is given it is normally assumed that the *diffuse* density is meant. All of the commercial instruments for density measurement, which are known as *densitometers*, are intended to yield diffuse values.

References

- ¹ Jones, L.A.: Jour. S.M.P.E.; 17 and 18: 491, 1931.
- ² Hurter, F., and Driffield, V.C.: J. Soc. Chem. Ind., 9: 455, 1890.
- ³ Tuttle, Clifton: J.O.S.A. and R.S.I., 12: 559, 1926.

JOHN ALTON BRINGS IN ANOTHER ARGENTINE HIT

WELL, John Alton, A. S. C., has done it again, and still down in Argentina. What he has done is told in ten or a dozen newspapers, and they are unanimous on the quality of his work. The picture was "El Matrero," a free interpretation of which would yield something like "The Bad Man of Tucuman." Tucuman is a province remote from Buenos Aires.

Alton was assigned to cowrite the scenario prior to production. Into the script he put speed, a speed he knew was so necessary, a knowledge he had acquired while with W. S. Vandyke in shooting the Tim McCoy series of westerns. The result was a surprise to all—so much so that the picture was not alone a photographic success; it became an artistic success as well.

Orestes Cavaglia, director of "El Matrero," in the course of an interview remarked that he had had several coworkers in the making of the picture. "Especially must I mention for his intrinsic merits John Alton, who has aided me with his ample culture in writing the scenario and for his experienced contribution in the filming of the picture," he declared.

Says Best Yet

From the Standard, the local paper printed in English, we learn the picture is based on Felipe Boero's opera. The hero is the gaucho, or cowhand, cruel and ruthless, but at the same time indolent and romantic. The Standard declares in its opening that the picture is a noteworthy contribution to Argentine Film production and merits full marks as an outstanding achievement.

It adds that "technically 'El Matrero' is the best picture yet made in a local studio. One of the best features of 'El Matrero' is that most of the scenes

are exteriors. The photography is magnificent, and John Alton has really shot some wonderful scenes.

"Woods, hills looking down on verdant valleys, and some superb cloud effects against hilly ridges are some of the chief characteristics of 'El Matrero.'"

La Nacion, the most important paper in South America, devotes a matter of 24 inches to the story of the preview. While photography is seldom mentioned in its columns, in this instance the critic very frankly goes overboard.

"'El Matrero,'" it declares, "is a poem of native dramatic accent. It contains noble and beautiful motion picture material with rich exteriors not very frequently seen among us. Photographically it records beautifully photographed scenes with magnificently lighted closeups, carefully done double exposures, and exteriors of high-class beauty taken in the vicinity of Tucuman."

El Mundo, an important morning paper of international reputation, classing the picture as a legitimate hit, said that "John Alton, besides having taken part in writing the scenario of the picture, gives us a photography of exceptional beauty, exteriors of an amplitude never captured by our industry, with his well lighted interiors as well."

It may be added that among the host of praiseworthy comments among all these foreign language newspapers is this statement of Guion: "Alton's photography and technical work places 'El Matrero' among the best of American films." The photograph of the director of photography lends added emphasis to the comment.

The Instituto Cinematografico has selected "El Matrero" to be sent to the Venetian motion picture exhibition as an authentic document on gaucho life.

New Paths in Photography

New Paths in Photography. By Andreas Feininger. American Photographic Publishing Company, 353 Newbury Street, Boston. 47 plates. Size, 10 by 11 inches. \$2.75.

This is a book along lines that are different. It starts off with the statement that although "the camera does not lie," which statement seems to have the truth on its side, nevertheless the decision of what to take and how to take it lies with the person operating the apparatus, and the truth of the picture taken depends on the operator's conception of the subject photographed.

The author states that perhaps the most potent law is the elimination of the superfluous. "As soon as this creative quality of any branch of art, graphic or other, is properly understood, namely, creation of a new image of a familiar subject or creation of a new pattern out of familiar objects," he goes on, "a wide field is thrown open, the field of independent artistic work, into which photography enters as naturally as any other graphic art."

The author points out that in spite of the countless times it has been repeated the mistake is still made of mixing up photography and painting. They have nothing in common, he declares.

"The absence of color in photography has been a weak point only to the weak followers of this graphic art ever since its invention," says the author. "The degree of translation attained through the photographic process should be considered an element of strength."

The book is divided into chapters under the titles of Creative Elements in Photography and Technique of Graphic Improvement, which is divided into Direct Projection, Negative prints, Negative on Diapositive, Granulation and Solarization.

There are nude studies, one, for instance, showing clearness in line and form, with a second showing a sketch of the same figure limited to a single line with entire suppression of detail, as the simplest means to give the strongest effect.

We have had Plate 1 and 9, as indicated, and then in Plate 15 "figure in darkness." It displays the mystical charm of black and white achieved by reversal to a negative. The technique is enlargement from a reticulated positive transparency. The following plate shows a negative on a positive, moved out of register, and projected together on a transparency plate, which is again enlarged on hard paper.

Photographs are taken of leaves and feathers, analysis is made of gothic architectural, of the dematerializing effect here given by the reversal of lights and darks, of intermingling of light and shade, of positive and negative.

In fact, the enlargement of a positive transparency to make a negative image brings a multitude of strange results.

AGFALITE NEW PORTABLE HAS GREAT FLEXIBILITY

THE Agfalite, a new and ingenious piece of lighting equipment, has just been introduced by Agfa Ansco Corporation to solve the lighting problems experienced by many photographers. A radically different type of lighting unit, the new Agfalite is a valuable piece of supplementary equipment for professional photographers and is also excellent for amateur use in both still and motion picture photography.

Its ease of manipulation, its effectiveness in providing light from high or low levels, and its compactness for transportation in its sturdy steel case, are outstanding qualities of the Agfalite that will appeal to every photographer.

An important construction feature of the new Agfalite is a pantograph mechanism which allows it to be set up and adjusted on a moment's notice. The pantograph is anchored to the base of the carrying case and provides an extensible support for the light sockets and reflectors so that the lights may be placed at any position up to 94 inches above floor level.

Because of a built-in counterpoise spring mechanism, it is not necessary to fasten or secure the pantograph at the desired height, for it remains at the selected position. Further vertical adjustments can, of course, be quickly made simply by moving the lights up or down to a new position.

The Agfalite is equipped with two sockets mounted independently on sliding bars at the top of the pantograph mechanism to permit horizontal adjustment of the spacing of the two lights.

may be varied from 11 to 36 inches.

Distance between centers of the lamps
The Agfalite is designed to take No. 2 size floodlamps and is furnished with two adapters to permit the use of No. 1 lamps as well. Reflectors are of a special design to promote even distribution of light.

Other mechanical features of the Agfalite include caster supports that fit the base of the unit to make it easily moved across floors, approved underwriters cord with separate outlet plugs, and a diffusion screen that can be attached when softer lighting is desired.

The unit is supplied in brown crackle finish with pantograph and caster frames in nickel finish. It is U.S.A. made and available through photographic dealers at the list price of \$25.

Use of Supermatic Shutter Extended to Special Six-16

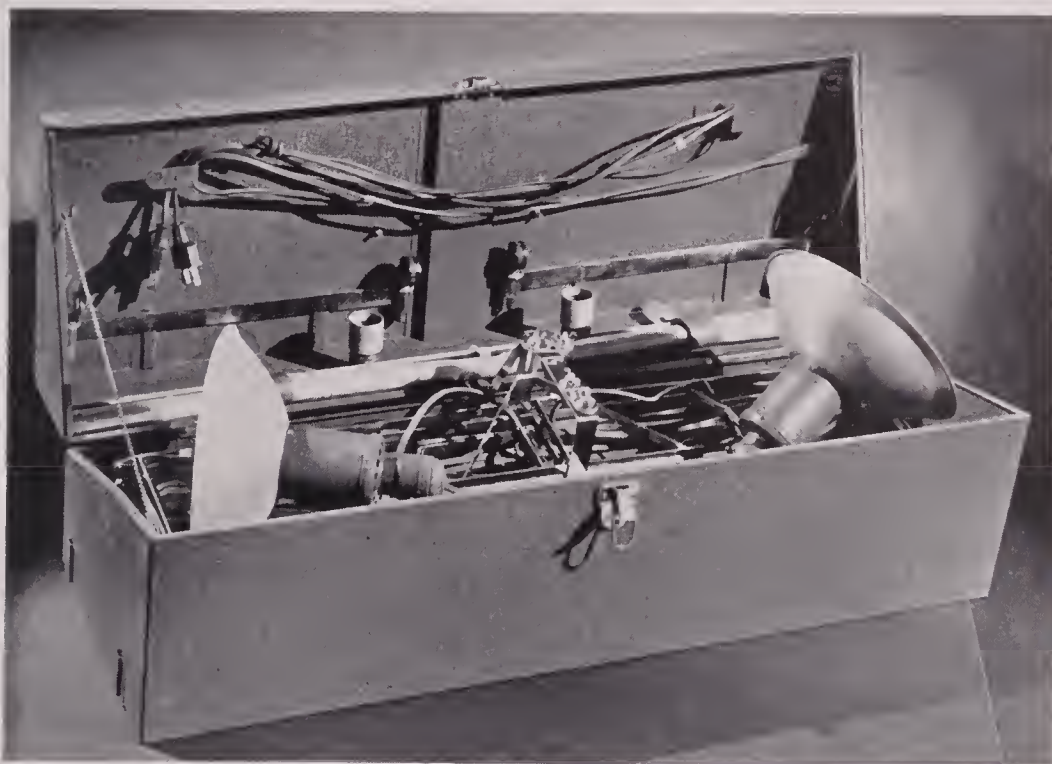
Early in August the Kodak Special Six-16 will be available equipped with Kodak Anastigmat Special f/4.5 lens in the new, precision-built Kodak Supermatic Shutter, the Eastman Kodak Company announces from Rochester.

Introduced a few months ago, the Supermatic has until now been available only on the Kodak Special Six-20. This new shutter has, in addition to a gear train self-timer, speeds of T, B, 1 second, $\frac{1}{2}$, $\frac{1}{5}$, $\frac{1}{10}$, $\frac{1}{25}$, $\frac{1}{50}$, $\frac{1}{100}$, $\frac{1}{200}$, and $\frac{1}{400}$.

Constructed with the accuracy of a fine watch, the Supermatic maintains its indicated speeds accurately through a wide range of temperature conditions, by virtue of a new type of shutter lub-



Agfalite set up, with distance between lights varying from 11 to 36 inches and elevation at any point up to 94 inches.



ricant developed in the Kodak Research Laboratories. Superbly finished, it harmonizes perfectly with the other fittings of the de luxe Specials.

Equipped with Kodak Anastigmat Special f/4.5 and Supermatic shutter, the Kodak Special Six-16 will retail at \$43 without case; \$45.75 with case.

Kodaguide for House Light

Of interest both to moviemakers and users of still cameras is a new Kodak home lighting guide, for Super-XX Film. This device, a pocket card guide with movable dial, offers complete data for indoor shooting by ordinary room light, from 60 watts to 400.

It covers light-to-subject distances of 12 feet down to 2 feet; lens apertures f/2 to f/22; "still" exposures of $\frac{1}{50}$ second to 64 seconds, and both normal and half-speed for movie cameras. This kodaguide will retail at 10 cents.

Agfalite all packed in case and ready to go.

*When the Critics
Commend and Praise
The PHOTOGRAPHY*

*You may be sure
the picture is shot
with*

EASTMAN
PLUS X
NEGATIVE

J. E. BRULATOUR, Inc.
——— DISTRIBUTORS ———

EASTMAN TAKES ON LAMP OF BARDWELL- McALISTER

By GEORGE BLAISDELL

THE Eastman Kodak Company in its search for the best lamp obtainable for its fifty stores in the United States and Canada has paid Hollywood the compliment of crossing the country to secure it. Announcement is made in Rochester that it has closed arrangements with Bardwell & McAlister of Hollywood whereby it will distribute the Baby Keglite and the Foco-Spot to its stores in the United States and Canada beginning immediately.

The Baby Keg-Lite weighs but twenty-five pounds and is easily handled. The stand reaches up to 8½ feet. It uses 500 or 750-watt globes, and the type is T-20 or T-24 with medium bi-post base. Much weight is given to the statement that it is unexcelled for color photography.

The Foco-Spot is an optical accessory which fits in the diffuser clips of the baby Keg-Lite. Its purpose is to develop a concentrated beam with sharp edges, either round or rectangular. A revolving disk with several sizes of round apertures will, at a distance of 15 feet, provide brilliant circles of even light in

sizes from 3¼ feet to 7 feet in diameter. Rectangular shapes are obtained by four sliding mats; these rectangles may be rotated to suit the object. For concentrated high lights, special shadow and silhouette effects the Foco-Spot is said to be an ideal photographic tool.

Opens New Field

As an accessory to the Foco-Spot a background slide may be purchased at a slight additional cost. Original designs may be drawn or painted on the glass slide and projected on the background.

Portrait photographers and commercial photographers who are using the Foco-Spot insist it has opened a new field of portrait possibilities. The intensity of the light beam is the same regardless of the aperture used.

With the Baby Keg-Lite a slight pressure on a conveniently accessible control instantly spreads the beam to any desired angle from a 4 degree spot to a 50-degree flood. A calibrated scale, giving focusing arm position, enables the duplication of any desired lighting effect. With this unique device shadows, colors and light quality may be compared, studied and analyzed in a manner heretofore impossible. This is an exclusive feature, with patents pending.

The light output of Baby Keg-Lite is three times greater than the average photographic light of equal wattage with conventional optics. At any degree from spot to flood the field is clear and even.

The prices of the lamp and accessories are as follows: The Baby Keg-Lite complete with double riser collapsible stand, 25 feet of rubber covered cable and plug, without globe, \$55; Foco-Spot attachment, with rotating disk and adjustable mats, \$25; background slide,



Baby Keg-Lite, lamp stand and cord.

with five clear and one heat-proof glass slides, \$2.50; globe used in Baby Keg-Lite, 500-watt T-20 clear C-13 medium bi-port globe—either M. P. 3200° K. or C. P. 3380° K., \$4.25; 750-watt T-24 clear C-13 medium bi-post globe, either M. P. 3200° K. or C. P. 3380° K., \$5.50.

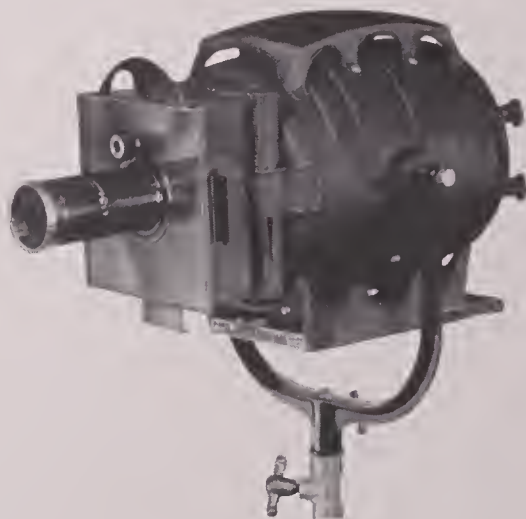
The firm of Bardwell & McAlister, Inc., was formed in 1932, seven years ago. Both the members of the firm were actively working at the trade when they quit work to become partners.

Cecil Bardwell started with Universal in 1914. He helped William (Bill) Horsley build that institution along with others when Universal started to grow. For a time he was in what was the special effects department. In 1923 he



Left, Foco-Spot.

Right, baby Keg-Lite and Foco-Spot attached.





Here is a reduction of a 16 by 20 portrait of Bette Davis as she appeared in Warners' "The Old Maid." The accompanying full-page schedule and diagram shows how Photographer Elmer Fryer accomplished these remarkable portraits. In one instance the photographer remarked that it would not have been unusual with his ordinary lighting facilities to have required two hours to get his subject where he wanted her—everything precise. In the present case but four minutes were required.

became assistant chief electrician of Universal, and remained with that concern until he received a tempting offer from Harold Lloyd.

Two Generators for Start

From there he went with General Service, with which company he remained as chief electrician until this spring, although it was in 1932 he formed a partnership with McAlister.

John G. McAlister also started as electrician in Universal in 1914. He was one of the first to build an electric generator that was mobile. In the late 20's he built a mobile generator he rented to studios. It may be added he became one of the leading authorities in the country on mobile generators. In 1932 he took Bardwell as partner and started in business. The only assets they had in a book way were the two generators.

In the seven years they have been in

business they have built up one of the largest rental equipment agencies on the west coast. Bardwell & McAlister, Inc., are recognized as leaders in incandescent equipment.

One of the principal reasons for the success of the new lamp has been its instant focusing device. Elmer Fryer remarked on one of the pictures he made with Bette Davis that to get such a picture as he secured of her he ordinarily would have been compelled to work at least two hours, what with getting the lights just so, a matter which would have been impossible, as she would not have been a party to it. Nor would she have permitted a stand-in to undergo such an experience.

As a matter of fact, he said, it required about four minutes to get the full lighting, and he was through.

One of the leading factors is that it has been proved not only for black and white. The lamp has been equally proved for color, and it is for this it will be featured by Eastman in every phase of commercialism.

One at least of the pictures of Miss Davis shown herewith will be displayed in all of the Eastman stores in the United States and Canada. Also there will be available these same diagrams for the benefit of any photographer who may be interested in learning how these remarkable results were secured.



CABLE ADDRESS
"WARNER"

TELEPHONE
HOLLYWOOD 1251

WARNER BROS.
PICTURES, INC.
WEST COAST STUDIOS
BURBANK, CALIFORNIA

July 24, 1939

Bardwell & McAlister, Inc.
7636 Santa Monica Blvd.
Hollywood, California

Gentlemen:

In compliance with your request, I am pleased to give you the following lighting diagram and details of the full length portrait of Bette Davis as she appears in a costume from her forthcoming Warner Bros. production, "THE OLD MAID".

FILM: Eastman Super XX

PAPER: Eastman Opal G

LIGHTS: Five B & M Baby Keg-Lites and one Foco Spot.

EXPOSURE: f-11

TIME: 1/5 of a second.

Light #1: Placed on floor, tipped up to an angle of about 30° with focusing device at full flood.

Light #2: Placed back of background at a height of about 10 feet, focusing device at full flood.

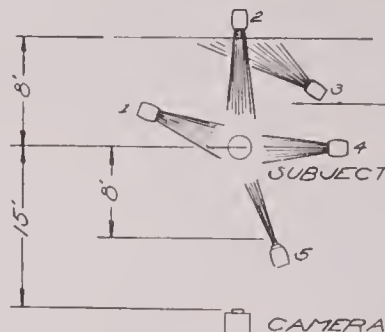
Light #3: Placed on floor back of sofa at full flood, lighting background.

Light #4: Placed on floor, focused at full flood, heavily diffused with silk, lighting the train of the dress.

Light #5: Placed 8 feet from subject. Is equipped with Foco-Spot attachment--focusing lever set at 3--small circle full on face and veil.

Bardwell & McAlister
July 24, 1939
Page 2.

DIAGRAM



All lights used were BARDWELL & McALISTER "Baby Keg-Lites", burning 750 watt C.P. globes.

Very truly yours,

Elmer Fryer
ELMER FRYER

EF:jd

VITAPHONE
TALKING PICTURES

CABLE ADDRESS
"WARNER"

TELEPHONE
HOLLYWOOD 1251

WARNER BROS.
PICTURES, INC.
WEST COAST STUDIOS
BURBANK, CALIFORNIA

July 24, 1939

Bardwell & McAlister, Inc.
7636 Santa Monica Blvd.
Hollywood, California

Gentlemen:

In compliance with your request, I am pleased to give you the following lighting diagram and details of the three-quarter length portrait of Bette Davis as she appears in a costume from her forthcoming Warner Bros. production, "THE OLD MAID".

FILM: Eastman Super XX.

PAPER: Eastman Opal G.

LIGHTS: Four B & M Baby Keg-Lites and one Foco Spot.

EXPOSURE: f-11

TIME: 1/5 of a second.

Light #1: At height of 6½ feet, focused at full flood, highlighting veil and side of the face.

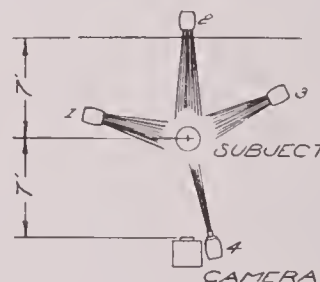
Light #2: Placed back of background about ten feet high, focus set at #3.

Light #3: Height--6½ feet, focused at full flood.

Light #4: Placed as near camera lens as possible and about 6 feet high. Equipped with Foco-Spot attachment--focusing lever at 3--using round aperture full on face.

Bardwell & McAlister
July 24, 1939
Page 2.

DIAGRAM



All lights used were BARDWELL & McALISTER "Baby Keg-Lites", burning 750 watt C.P. globes.

Very truly yours,

Elmer Fryer
ELMER FRYER

EF:jd

VITAPHONE
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GO AFTER YOUR LOCAL FAIRS

By Ormal I. Sprungman

Photographs by the Writer



STUPENDOUS though they may be, entirely too much attention undoubtedly has been devoted to extolling current World Fairs. Judging from endless publicity releases from both fronts and special fair editions sponsored by many publications, one might be led to believe that the entire population of the country, as it were, must be migrating eastward or westward or both.

Truth of the matter is that only a small percentage of the total populace will see both fairs, only part of which group will carry still cameras and even fewer will take movies.

Of far greater interest to most small towners of limited means, including those everyday folk who neither have the time, money nor inclination to journey far, are the more modest fairs—the state fairs, the county fairs, the home town carnivals and special celebrations which regularly invade every little hamlet.

Here you will find neither Trylon nor Perisphere. Each small-scale Treasure Island and each Flushing Meadow will have a distinctive personality all its own, and each will offer excellent photographic possibilities for wideawake cameramen.

Naturally, there will be few awe-inspiring, super-modern structures in the small town layout, but there will be human interest and action and opportunities aplenty for odd camera angles and unique methods of film treatment.

All Have Something

Briefly, every fair, no matter how small, has its prize winning exhibits, its proud displays, its midway side show or carnival ferris wheel.

Some sections of the country have special celebrations. In typical South Dakota, for instance, Bell Fourche has its Round-Up, Hot Springs promotes a Water Carnival, Deadwood boasts of its Days of '76, Spearfish puts on an

Air Fair, Custer claims its Gold Discovery Days, while Mitchell constructs its Corn Palace. Similar stunts are undertaken in other states.

At Belle Fourche, for example, downtown streets are barred from all traffic to provide convenient locations for merrymaking concessions. Octopus arms and the ferris wheel spin crazily overhead, while Redskins and white folks swing into their hectic street dances, drowned out only by the yipping of fun-loving natives.

For three days and three nights, the town works itself up into the sort of frenzy which provides interesting photo fodder. In many other localities, historic pageants and colorful parades offer Kodachrome a wide berth.

Since people make any fair, you will probably concentrate much of your shooting on closeups of the personalities you find. Naturally, these should never be posed. Instead, carry your camera about inauspiciously and seek candid, surprise footage. For this type of filming, tripods will betray you, but this does not mean that all shooting must be done with the uncertain, hand-held camera.

Wherever possible, lean your outfit against the side of a building or atop a corner post or hold it firmly against a tree for sturdy support. If you plan any bird's-eye angle views looking down upon the fair grounds, prevent the danger of a lens spill by securing your camera to your wrist with a leather leash.

When Tripod's Imperative

Telephoto lenses of medium length are also useful for obtaining intimate closeups of wide-eyed youngsters and tired, foot-weary oldsters. Where long-focus lenses are used, however, a tripod is most necessary to prevent jittery pictures. Candid group scenes can often be taken by "under-arm" methods.

Simply tuck the camera nonchalantly under your left arm, after having preset focus and aperture, walk into the

scene action, fold your arms in front of you, and calmly operate the exposure button with the thumb or fore finger of the right hand.

If you wear a topcoat, insert the left hand in the left pocket, grasp the camera firmly through the coat lining, and do your shooting from hip level. These methods are equally effective when filming detective footage for courtroom evidence. No movie maker, however, should go beyond reasonable bounds to secure his candid stuff.

Since most fair filming requires much footwork, travel light. Don't overburden yourself with a lot of extra gadgets unless they are essential to filming. Carry your camera in your hand, sans carrying case. If you use monochrome stock, leave your 2x yellow filter right on the lens, removing it only when it is not needed.

Carry enough film with you, and remember that the usual tendency is to overshoot. If you have spent some time planning your fair reel in advance, you will have a pretty good idea of how much footage will be needed altogether. Possibly 400 feet of 16mm. or equivalent in 8mm., will cover all angles.

Carry Enough Film

If you plan to dig beneath the fair highlights, you may require 800 feet or more. The best bet is to carry a little more film than you plan to shoot, for nothing is more disconcerting than to run out of fodder just when the clicking is best.

The method of carrying extra reels and other accessories may cause a little anxiety. The empty camera carrying case, for instance, might be loaded and strapped to the shoulder. Still better is a small packsack which can be swung over shoulder or back.

Two months ago the writer used such a pack for conveniently housing flashbulbs as well as film on a two-hour hike down into Wind Cave in the southern



Black Hills. Such an arrangement leaves both hands free for camera manipulation.

There are several ways to introduce a fair reel, but the easiest method might be to fade in on a long shot of billboard artists pasting up the first notice of the fair. Or show a couple of blistered hands tacking up a colorful advertising card. Either of these shots might be taken from a parked car, with motor idling, and when the inscription is fully read, the car starts up slowly and the camera begins to move during the fade-out.

Then adjourn to your darkroom—unless your camera is equipped with a wind-back—and wind back the film for the duration of the fade, creating a dissolve by fading in on a moving shot showing a car approaching the fair grounds.

(Special note: Several popular make cameras can be rebuilt with “wind-backs.” Rieschl-Emerick Laboratories, Inc., 303 Loeb Arcade, Minneapolis, Minn., rebuilds 8 mm. Filmors for \$19.95. Baia Motion Picture Engineering, 8044 Hardyke, Detroit, Michigan, equips 16mm. Cine-Kodak Model K with wind-back for \$25.)

Angle up for a near shot of the name of the fair, and then come in for closeups of tickets changing hands, feet moving and turnstiles spinning.

Alibi for a Flight

If weather conditions permit, hire a barnstorming aviator to take you aloft on a few sweeps over the fair grounds for a unique introduction. Such a wide angle glimpse will show the entire layout; then you simply glide back to earth and shoot the highlights from the ground.

Cover the commercial exhibits as briefly as possible, allowing more footage to prize displays entered by local groups. If photofloods are needed to light inside displays, do your filming in early morning before the crowds arrive. Step well inside the doorway of a building and frame shots of visitors entering

Left—A high vantage point is often helpful in covering wide areas. Here Belle Fourche, S. D., streets are filled with concessions to amuse guests at 1939 Black Hills Round-Up.

Right—A telephoto lens could be used here to pick off individual members of the crowd below. Street dances and wild merry-making add action and color to fair and carnival filming.

and leaving. Poultry and livestock exhibits are usually housed in bright surroundings, where closeups can be taken with fast lenses without need for extra lighting.

Lunch-time, with its hot dogs and pink lemonade, will furnish endless possibilities for candid, unposed studies. Sit down under one of the concession tents and place your movie camera on the

Day or night, the ferris wheel usually is chief carnival attraction. It is most photographically pleasing after dark.

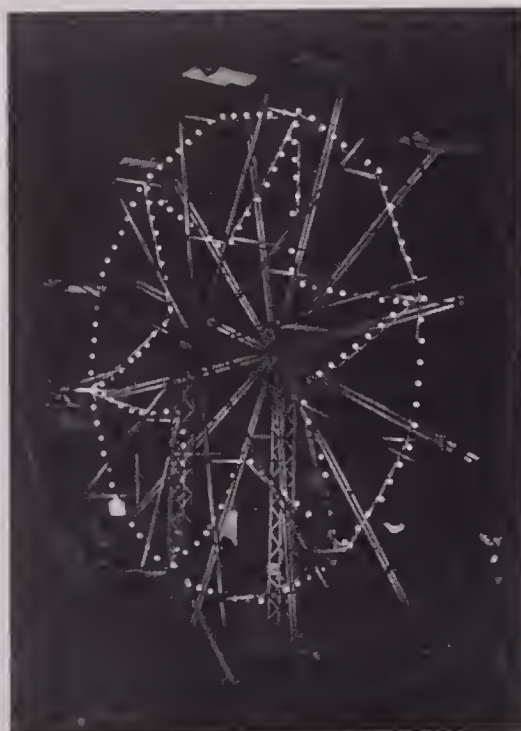


table beside you, pointed at some interesting character perhaps across the way.

Estimate the distance, adjust the lens setting, and innocently press down on the exposure button while you gulp and guzzle. You will be surprised at the results.

The midway, with its amusement centers, will capture much of your fair footage, for here you will find action and thrills aplenty. Barkers, medicine men, bearded ladies, the boy with the revolving head, trained animals, Ripley's freaks—these are only a few oddities you can film for your back-home audiences.

And then there are the thrill rides—the Lindy Loop, the Octopus, midget racing, and, of course, the ferris wheel.

Pick High Spot

After you have covered some of these concessions from the ground, pick a good thrill ride, and do your action shooting from some dizzy height or angle for extra hair-raising thrills.

Usually at sundown all concession lights switch on, and the combination of artificial illumination and natural outdoor light produces weird looking pictures.

Color silhouettes of barkers, the crowds, odd structures and statuary, taken from a low angle against the western sky, will result in beautiful effects.

If your local fair features auto or horse racing, reserve a spot for track movies in your special film. Arena tags are sometimes granted to bona fide photographers and worthy amateurs, and these will permit you to take ringside closeups of the preliminary preparations, well out of range of the grandstand spectator.

When the starting gun pops, you should be up under the roof of the grandstand, shooting down on the whole track right over the heads of spectators. The sheltered stand will serve as a giant sunshade, and the artistry will be that of unique framing beneath the eaves.

A telephoto lens and a fairly high vantage point will enable you to follow

This neon cow was an unusual exhibit at a recent Minnesota State Fair. Such night shots make fair filming an even more interesting pastime.

the beat of hoofs or the roar of motors around the speedway. You may wish to drop down to track level and shoot fence-line closeups as the speeders race by. And if you are looking for spills, you should seek a location on one of the turns where most upsets occur.

Quite often, one day of Fair Week will be set aside as Thrill Day, when antiquated locomotives or motorcars are sent roaring headlong at each other, only to crash and explode before the horrified eyes of grandstand ticket-holders.

Daredevils plunge autos through flaming walls, while multiple parachute jumpers leap earthward from unseen heights, marking their course with trailing flour dust. At most every fair you will find at least one high-diving horse or hound.

Fireworks Big Thing

The fireworks display before the grandstand at night will cap the events of the day. If you use Type A Kodachrome, most of your after-dark filming will be done at your camera's widest aperture, preferably around f/1.9.

For giant pyrotechnics, pull back for a distant view, but for individual sky rockets and bursting bombs, you can follow the flickering tail of the rocket with your telephoto right up to the bursting point. If there are bystanders on the



ground, silhouette them between the camera lens and the brilliant fireworks display for an artistic effect.

When you sit down to edit all your footage, remember that the tempo of your film—the speed at which you want it to gallop along—will depend on scene length. General scenics, views of buildings, persons and exhibits, should not run too long. In fact, shots taken on the amusement grounds, where action is fast and furious, may even call for shorter clippings.

Title-writing can be kept at a minimum by filming near shots of fair and

building signs and other inscriptions right on location. Where the wording is too long for a normal title, expose two or three frames anyway.

When the film is processed, make a frame enlargement of the wording, or project the single frame on a screen for close study, and boil down this reference title to normal length for inclusion in the finished film.

Shooting a few movie frames or employing a minicam for title study purposes is even more efficient and accurate and less time-consuming than ordinary notebook scribbling.

GEORGE BARNES AWARDED NOD IN REPORTER'S POLL

GEORGE BARNES, A. S. C., was awarded the Hollywood Reporter's poll of the critics' approval of photography on "Stanley and Livingstone." The second for the month of July was to Theodor Sparkuhl for "Beau Geste" and Tony Gaudio for "The Old Maid."

Four other awards were given to the same picture. They were for the best picture, for the best director, Henry King; for the best actor performance, Spencer Tracy, who had the leading part, that of Henry M. Stanley, and for the best screen-play, Philip Dunne and Julien Josephson. Sir Cedric Hardwicke, who sustained the part of Livingstone, was beaten out for the best supporting actor performance by Brian Donlevy, who portrayed the brutal sergeant in "Beau Geste."

On the screen credits full mention is made of the men composing the safari who went into Africa leaving Hollywood in June, 1937—the story of which was

told in the American Cinematographer a year ago, that in September, 1938. There among others were named Otto Brower, the director, and Sidney Wagner, A.C.S., photographer. The safari comprised a couple of hundred natives as well as three score natives acting as personal servants.

It was one of the largest expeditions ever sent out to represent a motion picture. One of the local Hollywood papers said the safari cost \$400,000, about sixteen times as much as it cost Stanley on his original trip. Practically 100,000 feet of raw stock was exposed in the trek from Nairobi to Ujiji, on Lake Tanganyika, and return.

The nearly hundred thousand feet of film which was shipped from Nairobi to London by air, by ship to New York and thence by air to Los Angeles arrived in perfect condition as shown by the film on the screen. The photography was beautiful.

The raw stock or original film was all

in sealed tins within tins and vacuum packed. Following exposure the film was dessicated, or dried, for twenty-four hours to free it from humidity or moisture. Then it was sealed and waxed and placed in double tin containers and carefully cased and again sealed for shipment. Every precaution was taken the sealing was so tight that no air could penetrate.

Lawrence of England Visits Ampro Factory in Chicago

R. G. Lawrence of Bristol, England, representing Messrs. M. W. Dunscombe of Ampro Sales, has been a recent visitor at the Ampro factory in Chicago. It was Mr. Lawrence's first visit to the United States and was for the purpose of acquainting himself with the personnel and the business methods of the company.

"We are convinced that through the efforts and co-operation of our English distributor all Ampro products will become even more widely known throughout the United Kingdom," writes President Monson of the Ampro company.

AROUND THE WORLD'S MOVIE STUDIOS

By A. J. PATEL



LIGHTS! shouts the cameraman photographing a big set. In Hollywood, this call may be answered by a blaze of illumination from fifty, seventy-five, a hundred or more modern, efficient lighting units. Once they are on and the cameras rolling the cameraman's worries about the scenes are, fundamentally speaking, over.

In the studios of my native country, India, even on the biggest sets the same call would be answered by the glow of perhaps two dozen lamps—scarcely enough to rig even a small-sized set in Hollywood. And once they were lighted, the Indian cameraman could count his worries as only begun.

Those are the two extremes of a world-circling journey in which I have had the privilege of intimate contact with the studios and film industries of three continents and five nations. And while they are separated by thousands of miles, and by an even wider difference in technical resources, I feel that these two extremes represent the most noteworthy factors in the world film industry today.

Indian Production Active

India and Hollywood are certainly the two most active film production centers in the world today. In India, over two hundred pictures are produced every year. All of them are feature pictures, some of them running 14,000 to 15,000 feet in release length. When it is considered that these productions must be made on small budgets, and with

inadequate equipment and production resources, the real magnitude of the Indian cinematographers' achievements may be appreciated.

As I have said, once the lights are on and the camera rolls, the Indian cinematographer's worries are just commencing. Insufficient lighting equipment is only one of the things that worry him. He knows, for instance, that his lighting equipment may be inadequate, both in numbers and in efficiency, to make the shot. In addition, he may have to work with a lens which, according to modern, Hollywood standards, is far too slow.

In general, he must make his pictures without many of the things which his fellow cinematographer in Hollywood would consider absolutely necessary to modern production. What equipment he has is too often of an annoying nature rather than pleasing.

In all of India there are about twenty-five stages, owned by almost as many companies. Most of these studios are quite active. While some companies have the good fortune to have several stages, of relatively modern construction, some of the others may have only one stage—and sometimes that is not even sound-proof, though no company in India produces silent pictures today.

Coming to equipment, the lights are very poor, and the photographic equipment by no means elaborate. The average studio has a total of not more than 50 lamps, and not all of these are photographic lamps, by any means.

*A. J. Patel, F.R.P.S., F.R.S.A.,
Chairman Photographic Society of India*

The most popular camera is the Bell & Howell, though recently some studios have acquired DeBrie "Super Parvos." It will probably surprise Hollywood cinematographers to learn that there is not more than one dolly and one Indian made camera-crane in the whole country. Between this and the inadequate lighting facilities it is no wonder that dolly-shots are seldom made.

Production System Lacking

Motion picture production in India is not as well systematized as it is in Hollywood. Most of the stories are written or selected by the director, and the scenario is not written in finished form.

There is no such thing as a research or technical department; India's producers have never found the importance of having any. Yet when an American or British producer makes pictures, apparently laid in India, which contain technical inaccuracies, we in India are prone to complain of what we term "insults" to our native customs and culture!

After having served as a research advisor during the making of Twentieth Century-Fox's "The Rains Came," I can appreciate the pains that reputable Hollywood producers take to obtain realism and authenticity in their pictures.

Most of the inaccuracies I have ob-

served in major-studio films laid in India have been traceable to the simple geographical fact that India and Hollywood are many thousands of miles apart, which makes it difficult even for Hollywood's major studios to obtain the aid of people intimately familiar with the thousand-and-one details of India's local customs and usages.

I am sure that if any Indian producer attempted to make a picture laid in America, film audiences in America could spot as many anachronisms as we in India complain of in American-made "Indian" films!

Returning, however, to Indian production methods, we make as many of our scenes as possible outdoors, with only natural light. Up to date, no artificial lighting has been used on locations. In most instances our outdoor sets or real buildings are used just as they are, with no changes. Fortunately, India has good sunlight most of the year, so weather is no particular hazard.

Often Delayed

Production is in most cases repeatedly delayed because this thing or that is not ready at the proper time. Sometimes the whole company may be ready to go—and then discover that the chief players are late or entirely absent!

Often, too, companies working on the unsound-proofed stages find it necessary to "shoot around" background noises, or even to work at night in the hope of having things quieter. It is not to be wondered that the average picture takes about four months to produce!

The camera is operated by the first cameraman: there is no system of having separate camera operators. There are, however, one or two assistants who may or may not be classed as skilled help. They help at everything from loading the camera to arranging the lights.

Working at odd hours, with settings, costumes and the like which have all too often been left more or less to chance, with indifferent equipment and unskilled helpers, the Indian cameraman must exercise unending patience and ingenuity to get his picture finally recorded on film.

Then he turns it over to the tender mercies of the laboratory and trembles lest at this last stage of the chain things should still result in disaster.

It may perhaps sound incredible to Hollywood-trained cinematographers that fully half the Indian motion picture studios still use the old rack-and-tank system of processing. Yet it is true.

This is by no means the worst. Though India is a tropical country, where high temperatures can be expected, processing temperatures is in all too many cases controlled by merely adding ice directly to the solution.

Always Fighting Dust

Perhaps it dilutes the solutions, the laboratory folk will admit, but it is

cheaper and simpler! Again, there is seldom any provision for freeing the air of the laboratory from the ever-present dust—and this, too, forms a hazard in the struggle to get a really good picture to the screen.

In this connection, let me say that these conditions exist in spite of strenuous efforts made by the technical representatives of the raw-film companies to show the Indian technicians and their employers the advantages of using more modern methods, and in spite of the efforts of the more progressive technicians themselves.

It is a discouraging fact that in many of India's studios and laboratories there is very little understanding between the worker who struggles to get the best possible work and the proprietor who struggles just as hard to get the best return out of the least money spent. Of course this is to some extent a problem in most industries and in most countries the world over, but it is raised to its highest power in India.

It is very difficult to make a man understand technicalities if he doesn't know the difference between good and bad pictures—especially if he is in the picture business not from any interest in art or showmanship, but simply to make money in the quickest and easiest way.

The average Indian picture costs about \$25,000, and makes good profits. The market for these pictures is restricted almost exclusively to India and to a few other countries where there are large Indian populations.

As has frequently been pointed out, the language question is a very serious problem, as India has about twelve provincial languages and enough local dialects to make a total of some 300 languages and dialects spoken by India's population. These are so different that the people of one village may very likely be unable to understand the speech of a neighboring village!

At present, pictures are produced in eight different languages, and as there is only a limited market for films in

each tongue it is not likely that the industry can develop on a larger scale until (or unless) India has one language and pictures are all made and understood in that language.

Technicians Enthusiastic

Yet despite these handicaps, and the greater one that India's cinematographers and other technicians must be almost wholly self-taught, India has little lack of capable technicians. More important, they are brimming with enthusiasm for their work, earnestly striving to make it better and to improve their country's films.

In this I feel infinite credit is due to India's cinematographers, for even though they are working under the handicaps of inadequate equipment and insufficient resources, they keep their patience and their enthusiasm, and in many cases turn out pictures in no way inferior to those made in the studios of Europe and England, where equipment and resources are so vastly more ample.

German Studios Well Equipped

After leaving India, the first foreign studio I ever saw was the Ufa Studio at Neubabelsberg, in Germany. This is a remarkably fine, big plant, situated just a few miles out of Berlin. In its time it has probably produced more of the world's outstanding films than any studio outside of Hollywood.

The Ufa Studio is the greatest film producing concern in the whole of Europe. There are about 2000 people engaged there in normal work.

The studio itself covers an area of 116 acres, and all types of pictures are produced there, including not only screen plays, but also excellent instructional films, advertising films and weekly newsreels. There is a total of 22 stages in this plant, of which 10 are sound-proof.

In general layout this studio might well be taken for a Hollywood plant, it is so spacious and complete. There are over 250 dressing rooms, capable of accommodating about 2500 players at one time.

For outdoor sets, Ufa follows the

EASTMAN SUPER-X PAN THREE TIMES AS FAST

Three times as fast as regular Cine-Kodak Eight "Pan" Film, and surprisingly fine-grained, a new Cine-Kodak Eight Super-X Panchromatic Film is announced by the Eastman Kodak Company, Rochester.

This new 8mm. film makes indoor picture-taking by artificial light almost as easy as outdoor filming in sunlight. Actors spotlighted on theater stages, boxing bouts in flood-lighted rings . . . these are readily filmed with Super-X "Pan."

Shots indoors at night can now be made by the light of one Photoflood bulb instead of three. And outdoors, football fans owning 8mm. cameras will welcome the new film for this year's gridiron activities, particularly for fourth-quarter action in the dimmer light of late afternoon.

In addition to its speed and fine grain, Cine-Kodak Eight Super-X "Pan" yields astonishingly clear, brilliant screen pictures. It will retail at \$2.25 per roll, including processing.

KUHNE'S CAMERA RECORDS MARVELS FROM AIR

By JACK KUHNE

*Expeditionary Cameraman
Twentieth Century-Fox Short Subjects*

*All illustrations are enlargements from 35 mm. film
photographed for Magic Carpet's subject of
"Good Neighbors"*

In 50,000 Mile Air Trip
to Make One Short Magic
Carpet Cameraman Flies
to Elevations Over 25,000
Feet Securing Pictures of
Prehistoric Mysteries.

MAKING the Lowell Thomas Magic Carpet of Movietone "Good Neighbors" was a satisfying experience. In the first place, it tied in with Secretary of State Cordell Hull's policy of open-handed friendliness toward our Latin American neighbors, which also happens to be the policy of the executives of Twentieth Century-Fox, led by President Sidney Kent and my direct superior, Producer Truman Talley, in charge of all our company's short subjects.

If it hadn't been for the fact that in the midst of producing "Good Neighbors" I was assigned by General Manager Edmund Reek of Twentieth Century-Fox Movietone News to cover the tragic earthquake at Chillan, Chile, I would count this visit to South America as the most delightful assignment ever given me and, in search of Magic Carpet of Movietone material, I've roamed considerably.

Only four months previous to my South American visit I was making pictures of Lapp life in the Arctic Circle north of Norway for a picture titled "The Viking Trail," released last season as one of the Magic Carpet series.

That South America contains some of the most fascinating places in the world I'm sure you'll agree if you see "Good Neighbors," to which I contributed negative from Argentina, Chile and Peru.

**Flying 50,000 Miles
To Make One Short**

The other sequences from beautiful Rio de Janeiro and other north-eastern countries on this continent were made by the good-will expedition from our company headed by Anthony Muto, our



Jack Kuhne

Washington (D.C.) supervisor, aided by Cameraman Fernando Delgado and Soundman Ben Box.

Although this is but a single reel picture it represents a lot of effort by both parties. I myself flew over 50,000 miles to make my scenes. The Muto party also covered considerable territory.

Here is a brief itinerary of my own travels:

In the first place I flew from Miami to Panama and thence to Lima, Peru. After working there for awhile for the "Good Neighbors" release, I got an urgent request to fly to Chillan, Chile, to cover the disastrous earthquake that leveled that once beautiful Chilean city.

It will suffice here to say I hope I'll never be called on to cover another such tragedy and witness a whole section of a population practically decimated overnight. The tragic sights I witnessed in that stricken city are indelibly engraved on my mind.

But, even more so than the tragedies I witnessed was the unconquerable courage of the Chileans in the face of disaster. To see these gentle and loving people take over the task of reconstruction, even before the last tremors of the 'quake had subsided, renews one's faith in the general integrity of the human race.

**Flying 500 Miles
With Living and Dead**

From this scene of desolation I flew, as a medical aid to dying victims, back to Lima. On the way two of these badly injured persons died. We flew 500 miles with the dead among the pitiably sick—a most horrifying experience.

However, we managed to save fifteen,



and when I left Lima I visited the hospital and found them all on the road to recovery and anxious to get back to aid in the reconstruction work.

After finishing my work for "Good Neighbors" in Peru I made a tour of Chile, working out of Santiago, and from there crossed the Andes by plane to Buenos Aires.

The biggest thrill of my trip came in Lima after I'd developed some still pictures I made on one of my flights. I was showing them to a group of professors of the University of Lima when suddenly one of the party let out a wild whoop and said:

"My God, here they are!"

I did not know what it was all about, but I noticed he was looking at one of my stills.

Helping to Solve Mystery of Universe

"Here's what?" said I casually.

"Man," my friend answered, "you've got pictures here of the mysterious cones for which we've been looking for years."

I examined my pictures and, sure enough, there on the ground were giant

Here are mysterious markings noted by Cameraman Jack Kuhne at an altitude—lines that cannot be distinguished on the ground. They are believed to date from a pre-Inca people and possibly to be a calendar for reckoning time. Some of these cones in the Nasca valley in the Andes are twelve miles in length and entirely straight. The University of Peru is building an observatory overlooking the markings. Here will be stationed a body of astronomers who will endeavor to recapture the period of time when these markings may have been of current interest.

cones crisscrossing and pointing here, there and everywhere.

"So what?" said I, in my ignorant bliss.

"So what," said my friend, "would you like to be a party to solving a mystery of the universe?"

"If I can do it on one drink, okeh," said I, "what's the catch?"

It then came out that what I had accidentally photographed had been the object of all sorts of archaeological expeditions, the pre-Inca cones. A Danish adventurer and miner named Captain Aage Salto had reported seeing these

mysterious markings on a surveying flight, but had not thought them important enough to locate.

They were about to be put down by the searching scientists as figments of the imagination when my pictures put them back in the running.

To explain the real significance of this rediscovery one would have to be an expert archaeologist, astronomer and mathematician. However, here goes. It seems these cones, some of them twelve miles in length, with lines as straight as if some giant had drawn them using a ruler, were pre-historic calendars.

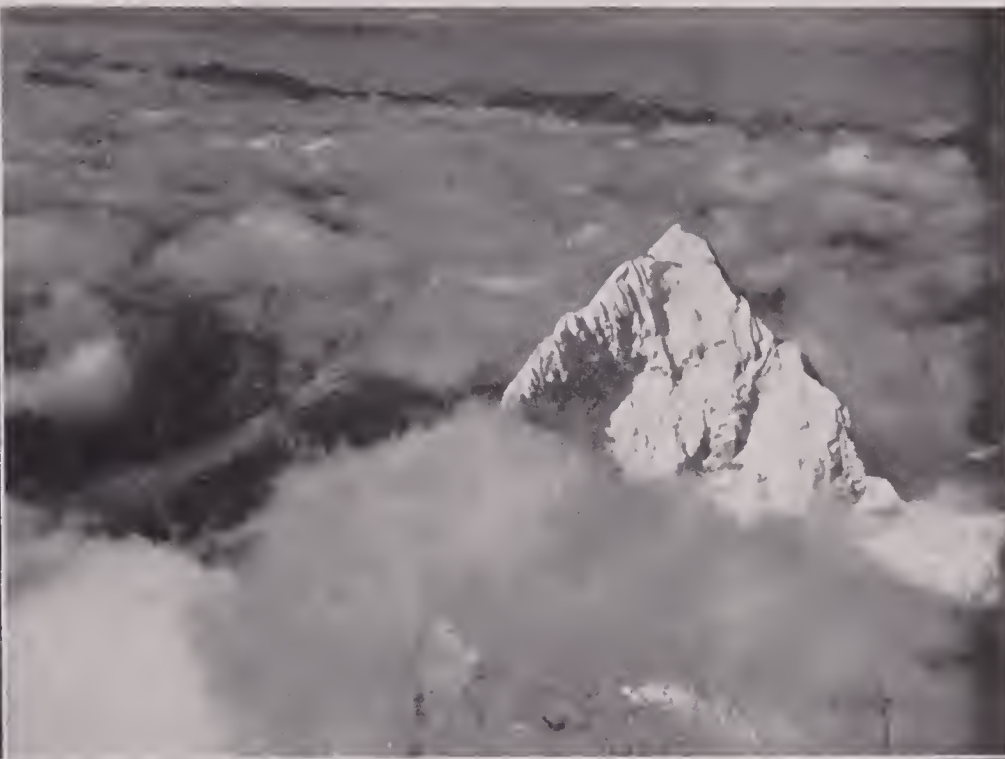
From these cones, it is supposed, an ancient pre-Inca race was able to tell the time of the year and forecast weather for planting. If this supposition is correct, then these ancients were as advanced in mathematics and astronomy as we are.

They used the cones to chart the stars and constellations, and when they were traveling along the lines of the cones or meeting their points it was significant in some at present unknown way.

To use these cones, it is further supposed, required a high knowledge of the heavens, of mathematics and the use of
(Continued on Page 410)

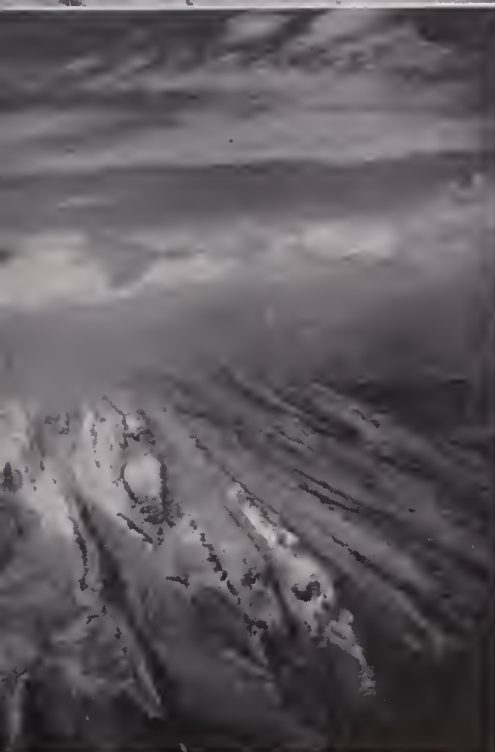
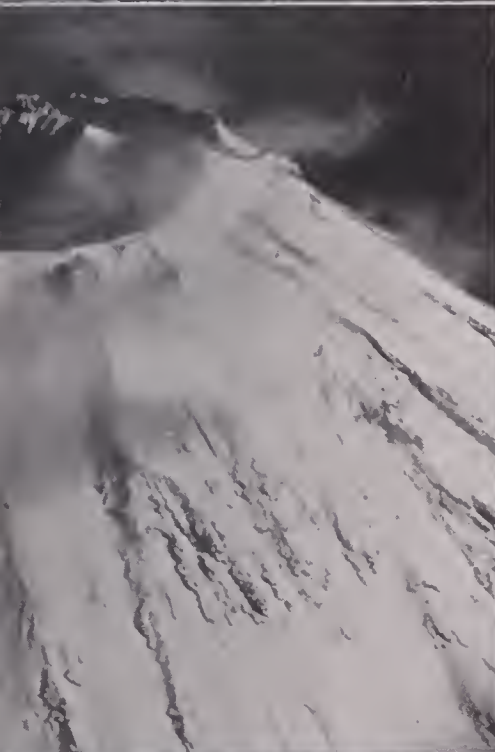
These photographs are enlarged from the remarkable film entitled "Good Neighbors," photographed by Jack Kuhne and released by Twentieth Century-Fox as a Magic Carpet number. In Peru Kuhne's plane flew 25,000 feet and more in order to photograph Mount Huascarón, 22,180 feet elevation. Then, for the first time it has been under a camera for motion pictures, he shot El Misti, giant crater at Arequipa, Peru. There is a thrill that rides in the beholder in this se-





quence as is realized the proximity of the wingtips to the sides as the pilot drops below the crest. And of course a touch would mean disaster, of loss without trace.

The pictures easily will rank as among the most dramatic shown upon the screen. Scenically they are tops. And exposure and photography generally? Of course there may have been superior, but this writer unfortunately remained at home that night.



Kuhne Records Marvels from Air

(Continued from Page 407)

instruments like the present day surveyor's transit and the sailor's sextant.

Plane and Camera Really Start Something

As a result of these pictures, the University of Peru is setting up an observatory on top of the Andes overlooking the Nasca valley, where these phenomena may be studied.

Then, when their exact position on the earth is determined, a whole body of astronomers are going to work out the exact places in the heavens of the constellations for thousands of years until they find them traveling the conical lines or matching the points.

If they are successful in this research they then expect to know the why and wherefore of these mysterious so-called timepieces. One of the odd things about these cones is that they cannot be seen from the ground, though being plainly visible from the air.

So, maybe, Twentieth Century-Fox and I will go down in history as the ones who made a discovery that helped to solve a universal riddle. Yes, I got a great thrill out of this and I'm making archaeology my avocation for the future.

Five Mile Elevation To Photograph Huascarón

After getting over the excitement of being a discoverer I went back to my job and flew over Mount Huascarón, the highest peak in Peru, having to attain over 25,000 feet to encompass the giant in the finder of my camera. This peak towers into the sky for 22,180 feet.

My next conquest . . . by now I'm feeling like an old Spanish Conquistador . . . was El Misti, the giant crater at Arequipa, Peru.

This slumbering bunch of violence hasn't blown in over a hundred years, but the last time it did it spread ruin and desolation with its hot lava over an area of 100 miles in circumference.

This is the first time this sleeping giant has ever been filmed for motion pictures, although it has been shown in stills. It was an awe-inspiring sight to look into that gaping, jagged, steaming hole. I wished I had Father Hubbard along with me to explain its mystery and potentialities.

From El Misti, after a few days' rest, we journeyed to the famous pre-Inca ruins at Macchu, Piccahu, Peru. These were discovered in 1911 by ex-Senator Hiram Bingham. There are many mysteries attached to these remnants of a glorious past.

The pottery and tools found in the ruins show that these pre-Inca people were highly civilized and very capable engineers. One is bewildered by the size of the boulders used in the buildings and the masonry exhibited.

The skill shown here can only be compared to that displayed by the builders

of the Egyptian pyramids, and is said by many competent archaeologists to be even superior to the work in those monuments of antiquity.

So skillfully are these 100-ton boulders joined together that it is necessary to use a magnifying glass to discover the seam. Now that's something no contemporary mason can achieve.

Further, these ruins are along a mountain top ridge which is almost unscalable. In fact, although an earthquake is believed to be the cause, one group of ruins, which may be seen in the picture, are inaccessible, being perched precariously on a peak from which there is a sheer drop of over 3,000 feet.

But it's a mystery why any community, and it seems to have been heavily populated, would take such an airy habitation without having the use of wings. Yes, here is South America's puzzler, and it's just as mysterious, if not more so, than the Sphinx.

When we got all we could on this second South American mystery we flew down and photographed that beautiful part of the world known as the Chilean Lake section. Here is natural beauty that will match anything anywhere.

The Argentine was the last stop on the picture-making itinerary, and this

Macchu Picchu

AS Lowell Thomas said in his absorbing description of the scenes shown on the opposite page in Twentieth Century-Fox's "Magic Carpet": "This was a great city in remote days gone by, before the white man came, before the Incas came . . . The famous ruins left by the pre-Inca people at Macchu Picchu . . . Now a scene of craggy desolation, but those remains of buildings show that this must once have been a fair and flourishing land—with bountiful agriculture and terrace cultivation.

"Nobody knows anything about the long-forgotten people who reared massive cities with extraordinary architecture. They built with immense masses of stone, and the wonder is—how could they have cut and handled the huge blocks? Joined without mortar and laid together with the most minute accuracy. A mystery of pre-historic civilization.

"On top of that rocky pinnacle are the ruins of a town. Inaccessible ruins—you can't get to them. It is believed that an earthquake broke down the approaches and left the town perched there, impossible to reach.

"Strange mystery of the past. Our South American Good Neighbors are indeed fascinating neighbors."

hustling, bustling, United States of South America gave us many excellent sequences for "Good Neighbors."

Then back to Lima, to Panama, to Miami and home. And, although I love South America, there is still no place like home.

County Supervisors Take Pictures of Drunk Drivers

The Pima County Board of Supervisors recently purchased a movie camera from the Martin Drug Company of Tucson, Ariz., for the purpose of "mugging" drunken driving suspects.

Shots are taken of the suspect being put through the various tests—walking a chalk line, bending over and attempting to touch the toes, closing the eyes and swinging the arms from an outstretched position at the sides in an arc so that the first fingers on each hand touch (try it), etc.

This movie is then shown the suspect in an effort to convince him that he might as well plead guilty—thus saving the county the expense of a jury trial. In case the suspect still wishes to fight the case, the movie is to be used as evidence.

Charles Nielsen, manager of Martin No. 1, and who has developed the photographic department in his store from a few cheap still cameras to one of the largest and most complete departments of its kind in the Southwest, convinced the Supervisors that the idea was practical by taking the first pictures personally and showing them to the Supervisors, law-enforcement officers, judges, lawyers and members of the press.

Now he is working hard on the city police force in an attempt to sell them candid cameras for all their patrol cars.

Something to Remember

(Continued from Page 390)

Some one has classed the performance as a documentary. And so indeed it is, one of the great documentaries of all time.

It will be a sorry picture for Germany. It will serve as a damning indictment against the German Army in the first instance, because it is more than plainly pointed out that the verdict was the act of the army. The German people had no part of it.

But the great public which sees the picture will not distinguish the army from the people. They will put the blame squarely on the head of the German man and woman who constitute the great German people. They will hate the German people for the unspeakable brutality that is put before their eyes.

And the German people, as a people? They will not see this indictment of them—for nowhere where flies the German flag will any part of "Nurse Edith Cavell" be shown. That, too, will be Verboten.



Praise Does Come for Camerawork

THE box office strength of a star or featured player is to a considerable extent gauged by the volume of fan mail he or she receives. A rare few directors—men like Cecil De Mille or Frank Capra—and fewer producers—such as David Selznick or Darryl Zanuck—enjoy professional prestige as “box office” favorites not only because they make pictures that are successful, but because the public at large is sufficiently impressed with their work to write them letters about it.

Here, traditionally, fan mail ceases. Many people, even within the industry, cherish a mistaken belief that to the general public such technical workers as cinematographers are mere unknown, unnoticed names on over long credit titles; that their work is so much a matter of purely technical routine that they never become personally known to filmgoers.

Cinematographers' Fan Following

A single glance at the mail received by any major studio's camera department should dispel this misconception once and for all.

During the months immediately following the release of any production unusually well photographed, or made under unusual circumstances, the mail box of the director of photography responsible for that achievement is crowded with letters from people in every walk of life—from people in and out of the industry who feel that his camerawork enhanced the dramatic value of the film, and from amateur and professional photographers and cinematographers the world over who see in his treatment of some scene a possible answer to their own photographic problems.

When Clyde De Vinna, A.S.C., returned some months ago from an assignment in Dutch Guiana he surprised his studio associates with the statement that it was not so much his association with one of the world's greatest studios that opened official doors for him, as the fact that he was remembered as the man who photographed such locally popular films as “White Shadows in the South Seas” and “Trader Horn.”

Cecil De Mille, returning from a nation-wide lecture tour, reported that to his amazement the majority of questions asked him by his audiences were not about the personalities and private lives of the stars, but specific and, to

use his own phrase, “incredibly technical” questions as to how this scene or that was photographed.

Wanted: Technical Advice

This quest for specific technical information naturally centers in the cinematographer's mail. For instance, soon after the first showing of a production laid against a naval background, this magazine received a letter from a navy chief photographer who, knowing he was soon to be assigned to official cinematographic duties, requested specific information as to how Arthur Edeson, A.S.C., had lit and filtered his seagoing shots and how he had worked aboard a battleship.

As this particular seaman was reporting for duty in San Pedro a studio visit was arranged to permit him to get the necessary information directly from cinematographer Edeson. During the visit this sailor—a veteran of nearly two decades' service in every part of the world, confessed a greater thrill at seeing and meeting the members of the Warner Brothers' camera staff than he felt at the presence of some of the industry's most glamorous stars.

In literal fact, half a dozen of the screen's reigning beauties passed by him unnoticed as he remarked in awe, “Gosh, is that really Sid Hickox over there?”

When Dan B. Clark, A.S.C., photographs a film starring the Dionne quintuplets, his mail for months afterward is filled with letters from users of 16mm. and 8mm. cameras, asking how they can get comparably natural shots of their own children, or how to light baby pictures without endangering the infantile eyes.

As Shirley Temple's perennial cinematographer, Arthur Miller, A.S.C., is kept busy answering similar letters, which he does aided by his personal experience in making 8mm. home movies.

Ask About Filtering

After a film like “Stagecoach” scores of amateurs turn to the cinematographer in question—in this case Bert Glennon, A.S.C.—for information on filtering.

And let any unusual achievement in special-effects camerawork reach the theatres and men like Fred Jackman, A.S.C., Farciot Edouart, A.S.C., or Byron Haskin, A.S.C., find their mail full of letters asking if similar effects can be produced with amateur cameras.

In the same way, Elmer Dyer, A.S.C., and Charles Marshall, A.S.C., are plied with questions about aerial cinematography by every one from first trip airline passengers up to experienced army pilots.

With the rise of Kodachrome such Technicolor veterans as Ray Rennahan, A.S.C., and Howard Greene, A.S.C., have been constantly called upon for information helpful in sub-standard color filming.

And after the release of the Technicolor “Garden of Allah” and more recently “The Wizard of Oz,” Hal Rosson, A.S.C., has for the same reason been doubly thankful that his hobby is 16mm. movie making—in Kodachrome.

A Cinematographer's Fan Mail

For more specific information on the subject of a cinematographer's fan mail let's take a glance at a quick cross section of the mail received by a typical ace cameraman.

One of the most notable current photographic achievements is Warner Brothers' “Juarez,” photographed by Tony Gaudio, A.S.C.

Through his courtesy we are privileged to quote from a few of the many letters he received from persons in and out of the industry during the first few weeks following the release of that production.

It is sometimes thought that a producer considers cinematographers somewhat in the light of a necessary evil—part of the studio overhead and helpful in the creation of glamour girls, but scarcely creative artists.

On the day following the preview of “Juarez,” however, Gaudio received the following letter from a leading producer in no way connected with his studio nor concerned in the success of the production. It reads:

Dear Mr. Gaudio:

Please accept my congratulations on your brilliant job of photography on “Juarez,” which I think is artistically and dramatically one of the best the screen has ever seen. Cordially and sincerely yours,

DAVID O. SELZNICK.

Such a spontaneous tribute from a competing studio's chief is certainly significant of the way the real leaders of the industry regard the members of the camera profession.

From far-off Australia came a letter from an Australian distributor who during a studio visit had made Gaudio's acquaintance. He says in part:

We have just had the extreme pleasure of previewing “Juarez.” I want particularly to congratulate you on the photographic effects you have obtained. Obviously, of course, I have no technical knowledge with respect to the art of photography; therefore, from the point of view of one who viewed the picture from an unbiased aspect, I do want to

(Continued on Page 424)

NEW FAVORITES

EASTMAN'S three great new films back up their special characteristics with typical Eastman reliability and uniformity. Worthy successors to earlier Eastman emulsions, they are the new raw-film favorites of the motion picture industry. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X

for general studio use

SUPER-XX

for all difficult shots

BACKGROUND-X

for backgrounds and general exterior work

Documentaries for the Amateur

By JAMES A. SHERLOCK
Sydney, Australia



Types rather than actors should be chosen

AFTER making a few personal pictures most amateurs feel the urge to make a documentary film. This high sounding title is attractive, but actually a documentary is a non-fictional film that tells a story. These films deal with reality, not fiction. It follows that there are many types of documentaries.

Family, holiday, industrial, agricultural or historical subjects are most favored by amateurs who wish to make a documentary, the approach to which is as varied as the creative and artistic natures of different individuals.

In a previous article suggestions for a family or holiday film were discussed. The following will deal with industrial, agricultural and historical films.

In these types of documentaries it is essential that "the whole truth and nothing but the truth" be shown, otherwise the film will fail in its objective. Use the lens of the camera as a searching eye of an inquisitive stranger wanting to learn all detail.

The amateur is fortunate in that he is director, cameraman and film editor all in one. He can arrange for unusual and effective lighting that will make the most commonplace objects include things that are not cinematic; he can write a story that will be interesting to the layman.

Industrial and Agricultural

These stories can be commenced in either of two ways. The first includes a visitor who wishes to make a tour of inspection. If it is a serious film contemplated and you are not familiar with all details, make a tour with a note book before you write the continuity.

You will then be able to write a continuous story and note the spots where closeups of your visitor can be cut into

the film. These will add intimate touches of humanity that will help the audience unconsciously gauge the relative size of the setting and the objects contained therein.

While this method of dealing with an industrial or agricultural film is best, the producer is wholly dependent on the capabilities of this visitor to walk through the film without becoming camera conscious.

The second method is to write a story without the inclusion of a visitor, but story it must be, right from beginning to end, with plenty of atmospheric back-

Costumes should be authentic—one of the characters in "Nation's Builders."



ground and many closeups to show detail and texture. If it is a clinical picture, show if possible, cause, effect, treatment and cure.

In some types of documentaries such as mining or agricultural films the camera could follow a workman throughout his working day. Industrial films are not hard to make if you have plenty of lighting equipment, a fast lens and fast films.

Historical Documentaries

Research is necessary before a scenario can be attempted. If the making of the film coincide with celebrations that are being held to commemorate the founding of an institution, town, city or nation the filmsmith will find many willing hands to assist, but he would be well advised to do a little research himself.

A visit or two to the local library will enable him to select a few episodes which can be handled in a cinematic manner and later joined together by titles or other film technique then added to shots that are to be had when any suitable pageant is being enacted as a celebration of a past event.

With this type of film it is important that a historically correct story be written. From this a detailed working script is made. Divide this into parts which can be filmed in one day.

Types rather than actresses and actors should be chosen. People who resemble the characters they are to portray are effective. If it is a statesman that is required, choose a person who has dignity; a doctor or lawyer usually is suitable. If it is a farmer that has to be cast, choose a man that is used to han-

Industrial films are not hard to make if you have plenty of lighting equipment.

dling farm impliments, but do not expect your doctor friend to become a farmer overnight, or your farmhand to have the dignity of a statesman.

Costumes should be authentic. If you live in a city, that city most probably has a theatrical or fancy costume company that will hire period clothes. A wardrobe mistress can be of great value. Try to gain her interest and friendship.

You will be surprised at the costumes she can find among the racks. Clothes that are a little the worse for wear are better than new ones unless it is a person of high rank who is being dressed. If it is required to make a costume appear worn, do not tear. Rub it between two bricks.

Locations should not be chosen at random. Pay a visit to your local tourist bureau. These people not only advise about a holiday, but also know their own locality exceptionally well and will give assistance if they think your film might publicize the district.

If these people fail, try the newspaper cameraman and the newsreel cameraman, as both groups are keen men and know your difficulties. When a choice of locations is available choose the one nearest home as valuable time can be wasted traveling.

Directing is simplified if your players know what is expected of them before they are on the set. This can be done by supplying them with a detailed plan of the whole day's contemplated work.

Have several copies of your shooting

script typed and hand them to the players a few days before you are to go on location. This will save valuable time when you are ready to shoot.

For yourself prepare another working script that is set out in the order you intend working. On your first script your scenes will be numbered in numerical order, but in this working script you might find it expedient to commence the last scene first. Be careful to have a friend mark each scene as it is shot,

then, you will not miss any part of your sequence. This is one persons work, and he must be careful that the players appear in each scene as they did in the preceding scene.

Do not tire your amateur players with too many unnecessary rehearsals. Have your people know what is expected of them before they leave home and you yourself learn your script, shot for shot, and endeavor to get your cast into the mood necessary for each scene.

EMBY OPENING PLANT FOR MANUFACTURING IN WEST

THE Emby Photographic Products of California, Inc., is opening a new manufacturing place in Los Angeles. The location is 1041 South Olive street, in a spot rapidly becoming the camera headquarters for the downtown section. The Craig company is on one side and the Los Angeles Camera Exchange is on the other.

At the head of the company is H. R. Kossman, general manager, who has had abundant experience in the work he is undertaking.

The building is 55 by 100, and part of it is in two stories. The upper floor is devoted to offices. In the front of the main floor is a large sales office. The remainder of the front of the office is devoted to an exhibit room and windows. Just behind these is a large projection room, with an area of 10 by 25 feet.

In the rear of this is a semi-darkroom of the same size, with a customers' darkroom leading off. There is another dark-

room devoted to testing immediately adjoining. There also is a stockroom with plenty of light. A big vault here is devoted to patterns and tools.

Chief Engineer R. C. Hubbard, formerly of the Consolidated Film Industries, will be at the head of a large force of engineers and designers. The latter have roomy quarters. The machine shop with 1500 feet of area has an impressive array of equipment, with lathes of many types. Chief Engineer Hubbard's office is at the edge of this room.

There is the latest type of temperature control for hardening metal, power press and foot press, automatic lathes and automatic screw. It is the intention to manufacture photo finishing equipment at first, to be followed by any type of amateur equipment or motion picture or any work which may be desired.

Mr. Kossman plans to have an opening about September 15, at which the

trade of Southern California will be given a first-hand view of what the Emby company plans to do in its new home.

"Photopedia" Issued

The United Catalog Publishers Inc., 230 Fifth avenue, New York, has just issued "Photopedia," the only official buying guide and reference book of the photographic industry. It is a large volume bound in a hard red vellum cover containing over 400 pages with ample illustrations, descriptions, prices and technical data, complete classified merchandise index, alphabetical index of all manufacturers and extensive listing of trade marks and trade names.

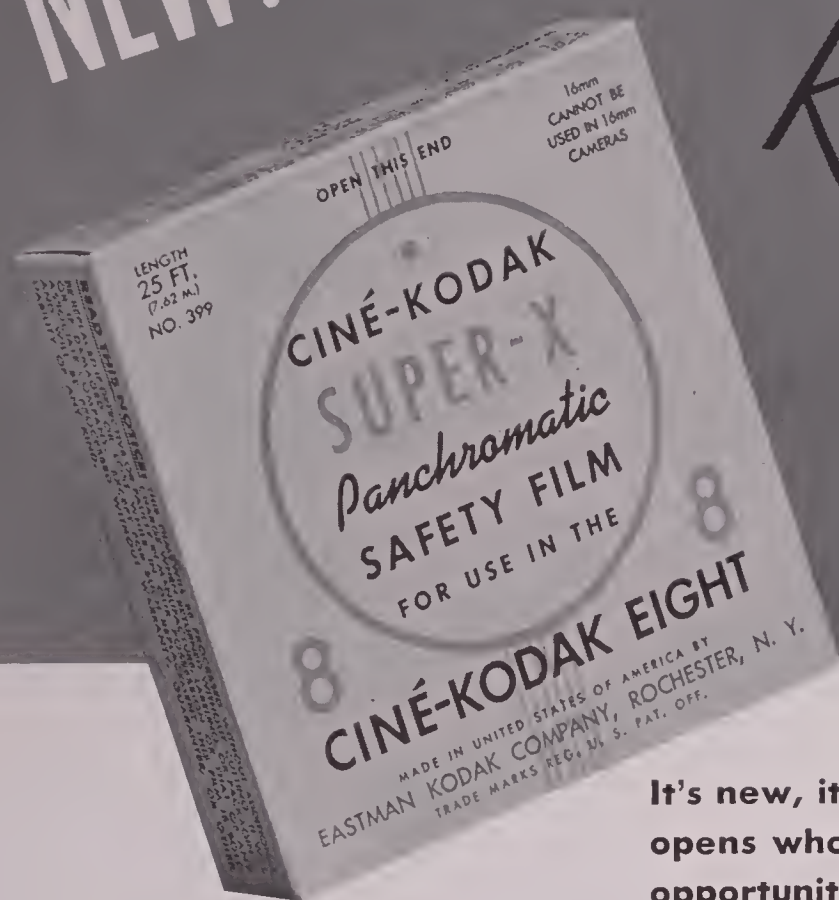
The "Photopedia" is used as a buying guide and reference book by the photo-conscious as well as manufacturers, distributors, dealers, camera clubs, photo-finishers, press photographers, schools, colleges, industrial organizations, etc. The price is \$1.95.

So that photographers may have an opportunity to submit pictures of summer activities to the Leica exhibit, the closing date for the receipt of prints has been deferred until October 1.



NEW!

*Three Times as Fast as
Regular "Pan"*



**CINÉ-KODAK EIGHT
SUPER-X**

It's new, it's fast, it's brilliant. Super-X Film opens whole new worlds of movie-making opportunity for 8 mm. camera users.

CINÉ-KODAK Super-X Safety Film (8 mm.) greatly increases the scope of movie making with an "Eight." Indoors under the light of a Photoflood or two, outdoors under any kind of daylight or with night's illuminations, Super-X does its work brilliantly.

In speed it is three times as fast as regular 8 mm. "Pan"; its even greater fineness of grain assures clear, clean-cut projection on the largest screens ordinarily used for 8 mm. showings. It is, of course, fully panchromatic. And its

price, with processing included, is \$2.25.

Ciné-Kodak Eight "Pan" Reduced in Price

With the announcement of Super-X Film, the price of regular Ciné-Kodak Eight Panchromatic Film has been reduced from \$2.25 to \$2 per roll. This famous film—the film that brought revolutionary economy to movie making—remains exactly as it has always been, reliable, beautifully fine in grain, and wide in exposure latitude.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

KODAK PRECISION ENLARGER UNIQUELY DESIGNED



FIRST item in a comprehensive program of highly advanced photographic equipment, heralded as the finest and most versatile enlarger available anywhere, uniquely designed for an extremely wide range of applications, Kodak Precision Enlarger is announced by the Eastman Company as ready in September.

Planned and built in the Kodak Rochester factories, the Kodak Precision Enlarger is intended for photographers who require and appreciate fine equipment. With it are announced two series of anastigmat enlarging lenses and a number of accessories useful both in routine and specialized applications.

With these lenses and accessories the Kodak precision enlarger may be used for producing black-and-white prints, lantern slides, film positives, and also for making accurate color-separation negatives from full-color film transparencies.

Furthermore, it may be used for copying and titling, for indoor or outdoor photography in full-color or black-and-white and for photomicrography in conjunction with any suitable microscope.

Through a carefully-planned system of interchangeable lenses and condensers the Kodak precision enlarger conveniently covers a range of negative

sizes from 35mm. up to $2\frac{1}{4}$ by $3\frac{1}{4}$ inches, permitting the making of 11 by 14-inch and larger prints on the base-board from any negative within this size range.

With the enlarger head turned to horizontal position range of enlargement is limited only by the length of the projection room.

Three units constitute the basic enlarger. These are as follows:

1. The stand assembly. A five-ply, natural finish, laminated wooden base, 35-inch chrome-plated column $1\frac{1}{2}$ inches in diameter, and sliding bracket.

2. The bellows assembly A. A die cast aluminum back frame which attaches to the sliding bracket of the stand assembly, and carries a gray bellows, die cast aluminum front board which accepts a $2\frac{5}{8}$ -inch square aluminum lens board and a nickel-silver chrome-plated shaft on which the front casting slides by means of a positive friction drive mechanism, designed for hairline focusing.

3. The condenser Head A. A light-tight metal lamp house containing an opal projection lamp and condenser system, consisting of two optically ground and polished condenser lenses in a metal mount with a heat-absorbing glass located at the top.

All Controls Positive

All controls, in this basic set-up, are smooth-acting and positive. A nicely adjusted counter-balance in the column head permits the operator to shift the enlarger head upward or downward with maximum ease. A slight turn of the tenite hand knob secures the head at any desired height.

The head itself may be swung and locked instantly at any position from vertical to horizontal, and an indicating scale shows the accurate vertical position, as well as other positions up to 90 degrees off vertical. Furthermore, the head and bracket may be turned 180 degrees round the column, for projection to the floor.

These various controls have eminently practical application. Head tilt is useful in correcting converging vertical lines in a negative. Horizontal position is desirable in the making of extreme enlargements or photo murals by projection to the wall. And projection to the floor is convenient for producing an occasional greater-than-normal enlargement.

In order to provide full enlarging efficiency throughout the entire range of negative sizes accepted by the Kodak precision enlarger, lenses are available

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Eclair Camera Makes Hollywood Bow

By WILLIAM STULL, A.S.C.

WITH claims of being the most silent studio-type motion picture camera yet constructed, the French-built "Camereclair" this month makes its initial appearance in Hollywood. Its manufacturer is the Etablissements Cinematographiques Eclair, of Paris, a firm which since 1907 has not only manufactured some of Europe's finest camera and laboratory equipment, but has also operated its own studios and laboratories.

While the new Eclair embodies numerous features familiar in previous models—notably the Mery focusing system—it is a completely new design, developed only during the past two years by Maurice Dalotel, who two years ago became chief engineer of the Eclair firm following an association of more than thirty years with the DeBrie organization.

Internationalized Design

The new camera is already in successful use in the major studios of Europe, Great Britain and India, and has thus been thoroughly proved on actual production before making its American debut.

The camera combines the outstanding

features of both European and American design. The camera head is of the boxform outline characteristic of European studio cameras, but is fitted with very American-looking external magazines, which eliminate any necessity of having the film specially rewound, or of complicated threading as has usually been the case with cameras fitted with internal magazines.

The actual framework of the camera is of rigid metal construction, but the designer has pioneered the use of a new and modern material for the outer case. This is a special synthetic plastic, moulded into shape. The material used, unlike some of the more familiar plastics which have been found ill adapted

to camera construction, is not brittle, but of a tough, semi-resilient character.

This outer case is lined with several layers of sound-absorbent materials which effectively absorb the noise and vibrations produced by the operation of the film-moving mechanism within, and incidentally serve as thermal insulation to protect the film from the effects of external heat. The front of the camera is closed, for better sound insulation, and the lens photographs through an optical glass window.

Pilot Pin Movement

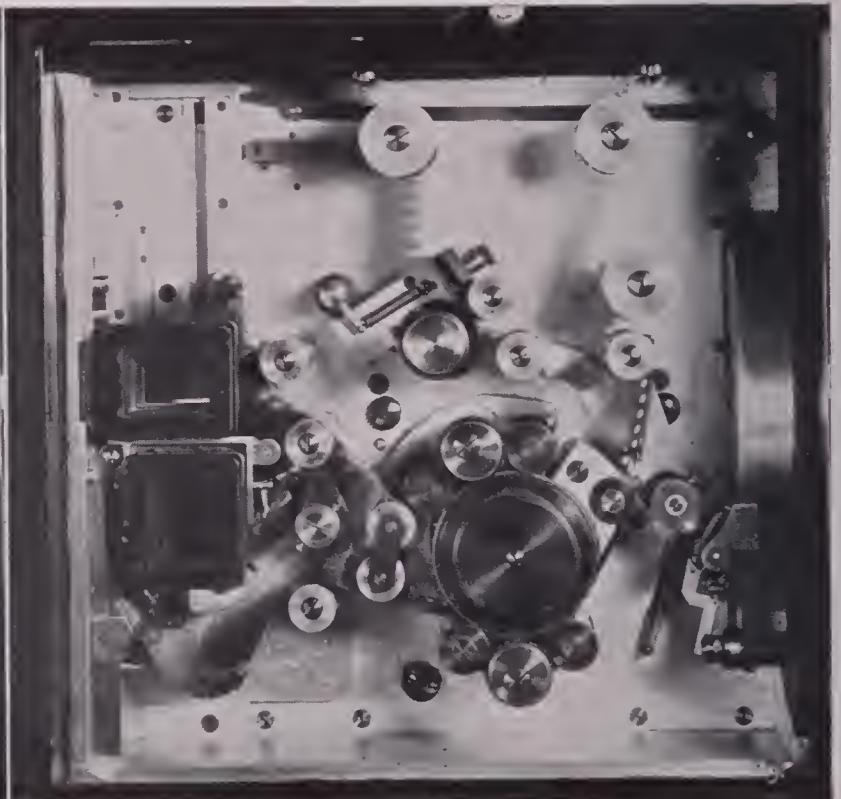
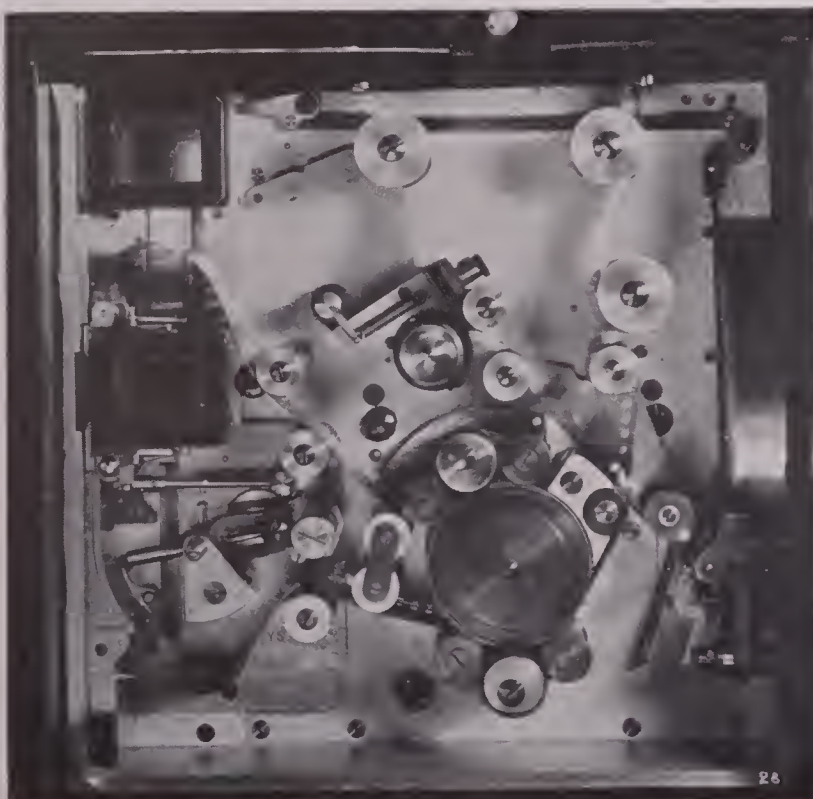
The film movement is of the pilot pin type, with an intermittent pressure pad. A single claw moves the film down between exposures; as the claw retracts, a single pilot pin enters the perforation and holds the film in accurate registration.

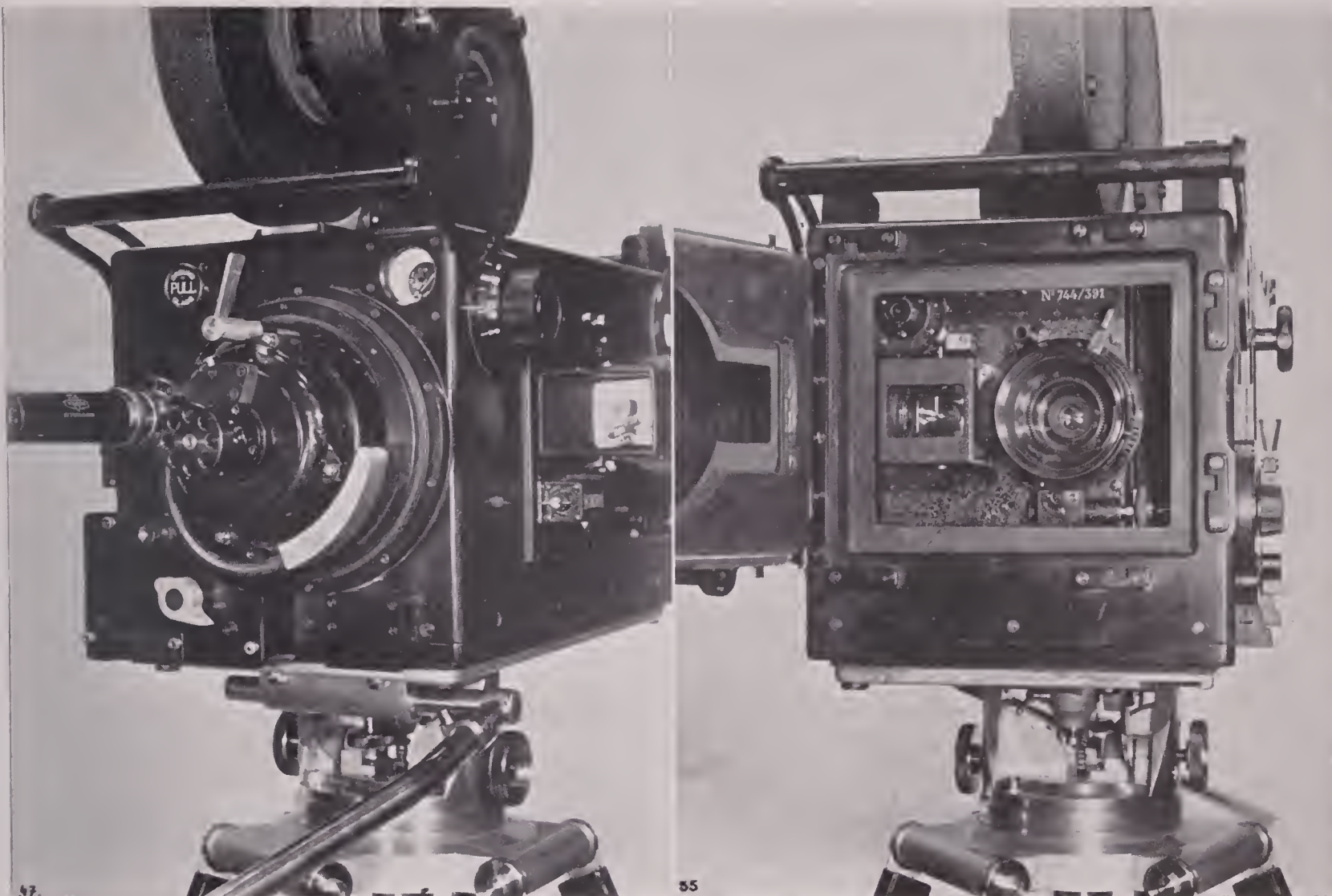
The pressure pad behind the aperture also operates intermittently, moving forward to hold the film precisely in the focal plane during the exposure, and releasing during the pulldown interval so that the film moves freely. One edge of the film is guided.

Designer Dalotel's choice of the single claw take-down movement is under-

Left, Mechanism of new Eclair camera, in photographing position. Film, with prism for focusing on film, in aperture, ground glass above. Note single claw pull-down and registration pin movement.

Right, Eclair mechanism set for ground glass focusing. The film carrying aperture is folded downward, and the ground glass dropped into the focal plane.





stood to have been guided by tests of cameras of many types, which showed that in most instances while two claws might be provided, minor irregularities in film perforation and shrinkage generally resulted in sufficient error so that but one of the two claws actually moved the film. Therefore he decided a single claw movement would be fully as accurate, and much simpler to construct and maintain.

A single catch permits easy removal of the pressure pad and film channel for cleaning and inspection. Two positive, mechanical anti-buckle trips are provided, one governed by a relieved roller which bears, under spring tension, on the incoming film, the other on the outgoing film.

Two Focusing Systems

In addition to the conventional calibrated focusing scale, two methods of visually focusing the picture are provided. These follow the Mery system, which has been a patented feature of Eclair cameras for more than thirty years.

Visual focusing is at all times done through the lens, in its actual photographing position. The image may be focused either on a ground glass focusing screen or on the film itself, and viewed through a magnifying system from a convenient point at the rear of the camera.

Left, Rear view of Eclair camera, with motor housing removed. Note bayonet lock on motor mount, with motor switch and connectors below. Focus knob and two of the three focusing scales can be seen at right corner; below, on side, finder and footage counter.

Right, Front view of Eclair camera, with front window open. Note standardized lens mount and position of finder lens close to camera lens. Diaphragm and shutter controls visible at side of camera, slightly below lens. Note rubber insulation on diaphragm control shaft.

For focusing on film—so long a favorite method of European cinematographers, even since the advent of anti-halation film backings—a prism directly behind the pressure-pad reflects the image on the film into the focusing microscope, which is mounted on the camera door and in turn reflects the image to the rear of the camera.

The focusing eyepiece, which may be adjusted to suit the individual eye, is fitted with an automatic shutter so that the image may be followed on the film during shooting, while if this is not done the focusing telescope is automatically shuttered, so no light will enter to fog the film.

For ground glass focusing, a knob at the rear of the camera is pulled, and the camera revolved by hand. This

rotates the film carrying aperture downward away from the focal position, and at the same time slides a ground glass down into place in the focal plane, where it is viewed from the rear of the camera through the same reflecting-magnifying optical system used for film focusing.

In this operation, the camera door is not opened, and the film is not subjected to any undue bending or twisting stresses, and cannot be damaged.

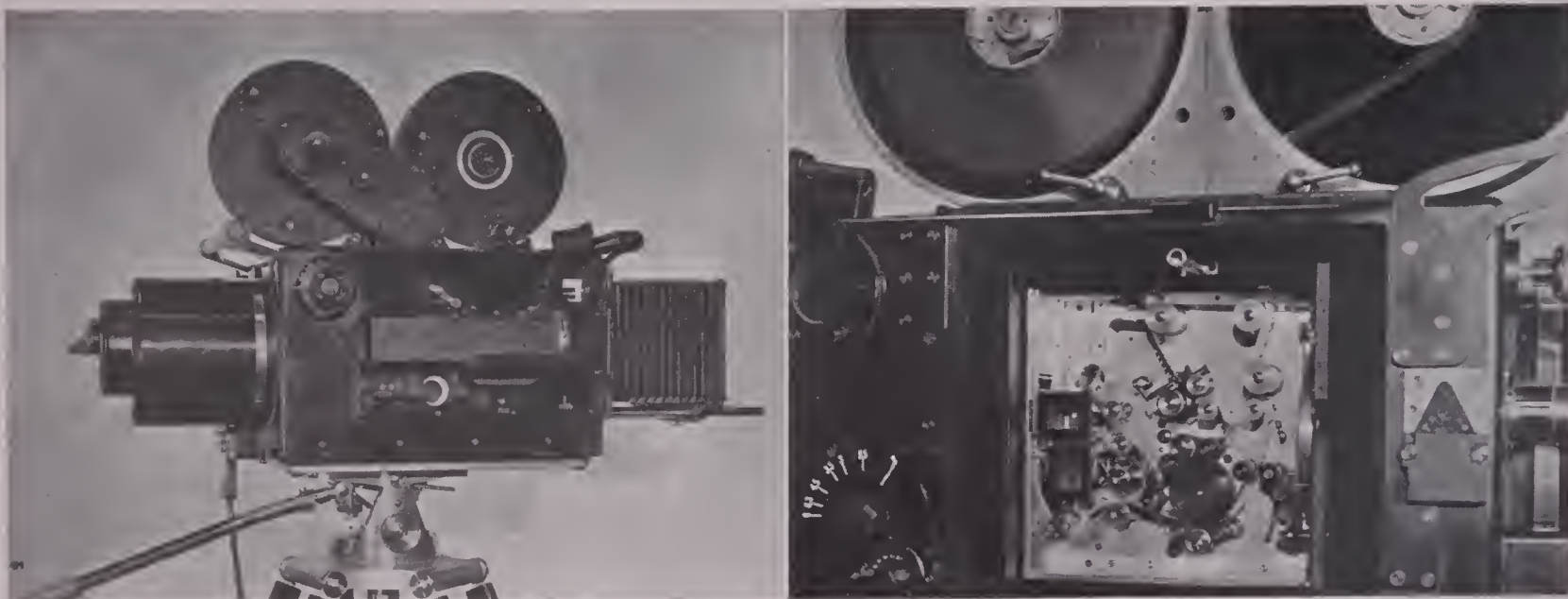
A slight turn of the motor shaft returns the film to its normal position and moves the ground glass up and out of the way. A safety lock makes it impossible to start the camera with the ground glass in the focusing position.

One Focus and Diaphragm Scale

Lenses are quickly interchangeable, and fitted in standardized mounts. These mounts are a recent invention of Engineer Dalotel, and embody automatic compensation for differences in focal length and for the different stop calibrations of individual lenses.

Therefore a single scale for diaphragm settings and another for focal settings will serve all lenses, regardless of focal length or speed. In focusing, the lenses do not rotate, but move straight forward or back with relation to the film.

For convenience of operation, three focusing scales are provided. One is visible through a port at the front end of the right-hand side of the camera.



A second is at the rear of the same side of the camera, beside the large knob that controls the focusing movement. The third is seen through a window at the rear of the camera.

The diaphragm scale is on the left side of the camera. Directly below it is the shutter control by which the shutter may be adjusted to any aperture from zero to one hundred eighty degrees. No automatic fade is supplied, but the shutter may be operated manually while the camera is in operation, either to make fades or to compensate exposures.

A convenience which should be appreciated by assistant cameramen is a button on the left-hand side of the camera, precisely in the focal plane, for attaching a tape measure. Since the end of a tape is likely to become worn or damaged with use, a calibration four inches from this knob is provided as a check-point for precise focusing.

Minimum Finder Parallax.

The finder is mounted on the right-hand side of the camera, rather than in what we have come to consider the conventional place on the opposite side. In this position, as the Eclair executives point out, a person using the finder in lining up a shot is out of the way of an assistant loading the camera, or of another member of the crew using the ground glass and focusing magnifier.

The finder lens is placed directly beside the photographing lens, inside the camera case and but a few inches from the lens. The image is reflected through the case to the finder on the outside. It is of course magnified and erect.

Due to this placement of the finder lens, horizontal parallax is minimized, and this is further corrected by a mechanism which adjusts the finder to compensate for parallax as the camera lens is focused.

Semi-automatic four-way finder mattes are provided to mask the finder to

Left, Right-hand side of Eclair camera, with motor cover in place. Focus control at rear of case, auxiliary focusing scale at front, footage counter and tachometer directly below finder. Lever above finder operates film punch, and calibrated scale on finder adjusts finder mattes. Note enclosed, reversible housing over take-up belts.

Right, Close view of Eclair camera, open, in ground glass focusing position. Note separate magazines and contractible film-core. The large dial at left adjusts stops for all lenses; directly below is shutter control. Film-shaping trimmer at right.

the angle of any lens being used. These mattes are operated by a single, calibrated control at the side of the finder.

Uses Any Motor

Any type of driving motor desired may be used with the new Eclair. The motor, with any necessary reduction gears, is fitted in a bayonet-type motor-mount, and covered with a sound-proofing case of the same material as the camera case.

The camera which has been brought to Hollywood is equipped with a standard ERPI alternating current interlock motor, a 50-cycle A. C. motor, and a battery-powered motor for "wild shots" and location use.

Electrical circuits and connectors are built into the camera for using synchronous motors, interlock motors or "wild" motors. A master switch is provided for use with sound systems in which the camera crew starts the camera.

Individual Magazines

While the magazines are of the familiar, external type, they differ from conventional American practice in that the feed and take-up chambers are built individually rather than together. The magazines are interchangeable, having light traps in two positions, so that after a loaded magazine is emptied,

it can be turned ninety degrees and used for take-up.

The magazine spindles are fitted to accept the standard cores supplied in rolls of raw film. For take-up use, a special Eclair core is used. This core is slightly larger than the standard raw-stock core, and is of the contractible type for easy threading. A trimming clip is provided at the side of the camera for quickly shaping the end of the film for convenient threading.

The take-up is belt driven, through an inclosed belt-housing. At the upper end of this housing an adjustment is provided for altering the take-up tension.

By reversing the take-up housing, swinging it from the take-up to the feed magazine, the camera may be operated in reverse whenever necessary.

Silent Operation

At the present writing, photographic and sound tests of the new Eclair camera are being conducted at one of Hollywood's major studios, pending which little can be said about the silence of this camera. This writer has, however, seen the camera demonstrated on several occasions, and while the acoustic conditions at those times were not those of a test-stage the manufacturer's claim that the Eclair is the most silent camera thus far developed may have some basis of foundation.

The designer states, moreover, that the camera will not become noisy with use, as the gears are large, with precision-cut herringbone teeth, and metal and plastic gears are alternated.

Accessories

The weight of moving parts has been reduced to the safe minimum, though the camera appears considerably more robust than most European designs, and vibration should be correspondingly reduced. The usual floating rubber insulation is used between the inner case and all external parts.

The Eclair camera is equipped with
(Continued on Page 425)

FILTERS CANNOT PERFORM MIRACLES

THE other day one of my friends came to me with a problem. "Something's wrong," he said. "I've always understood you should use a heavy filter to make clouds stand out against their background, but I tried it last week when those stormclouds were gathering, and it didn't work.

"I made two shots—one on panchromatic film with a deep red filter, the other on the same film but without the filter—and the clouds show up best in the unfiltered shot. What's wrong, anyhow?"

Seeing the two scenes on the screen, the answer was easy to find. My friend had simply followed a broad rule about filtering clouds—without stopping to consider what he had to work with, and how his filters worked.

He had a fairly clear blue sky for a background. Against the sky were piles of huge stormclouds which ranged from leaden gray to black.

And here's what happened when he slipped that red filter over his lens. The filter, acting perfectly normally, darkened the blue sky almost to black. Against this dark background, ordinary white clouds will of course stand out like so many puffy cameos: but these clouds were dark!

With nothing to afford contrast, the dark clouds disappeared against the darkened sky like the proverbial black cat in a coal-mine. In the unfiltered shot, the sky was naturally rendered as a light gray, giving a perfect contrasting background for the dark thunderclouds. No wonder the unfiltered shot was better!

Cine Filmers—and Still, Too

This is fairly typical of the way too many cinefilers look at the problem of filtering. Next to the ever embarrassing "What stop should I use?" at amateur club meetings and on occasions when substandard camerists encounter a professional, the most frequent question asked is "What filter should I use?"

It's about like telling a doctor "I don't feel well—what pill should I take?" The medico has to know where and in what way you feel ill; the photographer must take into consideration all of the varying conditions of your shot, such as subject, atmospheric conditions, lighting, location, type of film, and the like before he can give an honest, helpful answer.

First of all, let's make sure we know what a filter does. It is only a bit of colored glass or gelatin placed between your subject and the film. Being colored, it lets light of its own color through unhindered, and it absorbs light of its opposite, or complementary color.

If it is a red filter, for instance, it lets red light pass almost as if the filter weren't there and, depending on how deep a red it is, it stops most or all of the blue.

Since you are filtering out part of the exposure-making light, you have to increase the total exposure—either by giving a longer exposure, or opening up the lens to let more light get through—to give your film a full normal exposure.

Matter of Composition

Now if all the blue light is cut out, there will, even so, be practically no exposure given in the blue areas of the image. And since red goes through unhindered, and since you are giving more exposure too, the red areas will get an increased dose of exposure.

As a result, the blue areas will be dark and the red ones light. Other colors will be affected between these extremes, according to the amounts of red or blue their composition includes.

All of this presupposes a film that is sensitive to red light—that is, a panchromatic film. But suppose we have a film that is *not* sensitive to red, but only to blue. We've cut out all of the blue; we've put nothing useful in to replace it: so our film will get no exposure. If the film is, like Plenachrome, sensitized

well through the yellows and oranges, and almost to red, we may, if we increase the exposure sufficiently, get a bit of exposure.

Here we have one filter which is useless on one type of film, partially useful on another, if a very large multiplying factor is used, and thoroughly useful on a third emulsion, with only a small exposure-increase necessary.

In the same way, if we use this same red filter on two different types of panchromatic film, one strongly sensitive to red, the other only moderately sensitive to that color, we must obviously increase the exposure more for the second film than for the first if we are to keep our exposures normal.

So we have a filter which on one type of film may have a factor of, say, 3, which on a less sensitive film may require a factor of, say, 6. So unless you specify what type of film is used, there is no sense in referring to this (or any other) filter as a "3x," "6x," or any other arbitrary rating.

Film Speed No Criterion

Film speed is no criterion. There are orthochromatic emulsions (not sensitive to red, but sensitive to blue, green, yellow and sometimes orange) which are faster than some panchromatic emulsions.

Yet for all their speed, if used with a filter which cuts out most of the light to which they are sensitive, they will demand more exposure than a much slower but more color sensitive film used with the same filter.

Since very little has been done to standardize filters of different manufacture, experience is about the best guide to factors and effects, unless one follows professional practice and uses either the Wratten filters, which are rigidly standardized, or some like the Scheibe type which follows the same general standards and terminology.

Even for professional use, and certainly for most amateur purposes, the fewer filters one uses the better he is likely to be able to use them. Two or three will serve to meet almost every possible need. If you use the color-blind or orthochromatic types of film, these should be a light, intermediate and dark yellow, to give lightly filtered, intermediate and heavily corrected effects.

If you use panchromatic materials you'll get the best results with a medium yellow filter (whatever its trade-name may be) for slight correction; an orange one (I prefer the Wratten G or the 21) for medium correction; and a medium red one for the heavy artillery. With those three you should be able to meet every normal situation—and you'll have less to carry and less to remember.

When Filter Can't Help

But there are times when no filter can possibly help. For instance, the dark cloud situation mentioned earlier. Much more frequent, though, is a pale watery-blue sky, which looks more nearly white than blue.

(Continued on Page 427)

PLANNING VACATION SCRIPT

By JOHN T. CHEDESTER

Washington Society of Amateur Cinematographers

THERE is possibly no other phase of motion picture photography so important to the average amateur moviemaker as continuity in his travel films.

It is possible that about 90 per cent of his pictures are taken while he is on a trip. Nothing is probably so elusive to the average cameraman as trying to put some form of connective succession into his movies.

It is elusive. There is generally an unsuccessful attempt or two to get help from those whom the beginner believes ought to be in a position to help him. Nine times out of ten he is disappointed by the lack of interest in his problem and more or less just drifts along with the tide for awhile.

This of course leads to utter disappointment in time. Everyone is in such a hurry it is difficult to pin the fault of this state of affairs on any particular class of persons. Certainly the dealer does not have the time to show the novice how to make good movies. His friends, if he has any that make movies, will assist him, but even they are busy with untold numbers of problems of their own and cannot act as a kindergarten movie school.

Join a Good Club

The first thing that the new amateur should do is to associate himself with a movie club. It should be a good movie club, one in which at least some of the members are rather far advanced. The beginner can thereby secure the guidance and advice of the experts, and most of them get a kick out of helping the other fellow become a real artist; they like to see him grow and expand under their guidance.

As was said in the beginning, continuity is a tough customer to corner. It is sometimes like Pat's flea—you put your finger on it and it isn't there. But that of course depends a great deal on just what we intend to film.

There are but a few hard and fast

rules that can be given that will fit into all sorts of travel films. Try to look at the thing as though you were called upon at your club to tell the members about your trip to Alaska to whoositland or what have you.

You wouldn't begin such a talk by telling about your getting on the boat to take a trip down the McKenzie River or your landing at Seattle or your connection with a telephone pole on the return trip in Oshkosh. If you ever attempted such a thing as this you would certainly be looked upon as a little balmy and would be promptly placed on the crackpot list where you would belong.

No, you would begin at the beginning. You would probably try to tell them what prompted you to take this trip, the late books you had read on the place you had visited, the travel talks and all the other things you had read and heard about it, the things you had to do to get ready to go. In other words, you would have a progressive story to tell, and you would try to do it the very best that you possibly could.

Progressive Sequences

The trip will have to be divided into a series of progressions. First of course comes the departure. This can be mounted; that is, a few fleeting shots of the preparation and the boarding of the transportation facility can be made, or it can be far more elaborate.

Harry Forbes Passes

HARRY W. FORBES, of the American Society of Cinematographers, passed away in Los Angeles on August 17th. He was fifty-one years old. He leaves a wife, Bertha Forbes, and a son. For some time he has been ill. Preceding that he was for several years in the independent field.

You may make several closeups of different books on the place visited, travel folders and posters, packing the baggage, boarding your car, or whatever conveyance you use. All of these preliminary successions must be short. Try to take shots here that suggest a great deal, such as the turning of train wheels, the blowing of a whistle, etc.

In order to save time and to help in a thousand other ways you ought to write up something before you start. This is something in which you will show a great deal of improvement as you go along.

You will be surprised to find how much better you will become at writing travel continuity once that you have broken the ice. First read everything of a late nature that you can get your hands on, think about the things you want to film, try to visualize the scenes you intend to take.

The old rule that everything must have a beginning, a middle and an end is as true today as it was two thousand years ago.

Scene 1, medium shot—the family reading a travel poster. Some one enters and says "Let's go—what do you say?" Scene 2, closeup—a folder reading Alaska; a map of same.

It's just as simple as that. The greatest difficulty is in getting started at the thing, simply because we think we have no ability to do such things. All that is generally needed is for you to get started at it, and the first thing you know the sequence will be there, right on paper before you.

Before you start to write your scenario what do you scheme to do? What is your plot? From plot to script from script to film.

Jot Down Titles

Everyone likes to listen to a good story. Pictures tell a far more powerful story than mere words, but they must be in sequence.

After the first division of our script there follows the second. The trip to the place we intend to visit. Shots along the way. Montage into the thing here quite a few signs. Put titles into your going trip. With these great helps carry along a notebook and jot down at the time titles that you think you'll need.

The names of places along the way will show the progress of your trip,—so many miles to whoozit—this is the town of Salem—you are welcome—there are so many things you can film to show transition from one place to another.

Get some human interest into the thing, too. Anything to get a little comedy—that most intense and human thing—human interest. Don't leave your audience at the mouth of the McKenzie.

The third division is the conclusion. Take a few of the most lovely views of the country that you can manage as concluding shots. The return shots should be short—even though we had a wonderful time it's mighty good to be home

(Continued on Page 429)



W. H. Robinson Jr.

General Electric Advances W. H. Robinson in West

Effective as of August 1, W. H. Robinson, Jr., becomes assistant manager of G-E Lamp Department's South Pacific Division at Los Angeles. He succeeds L. R. Wilson, who was named manager of North Pacific Division at Portland, Ore.

For the past three years Mr. Robinson has been in charge of South Pacific's studio lighting and lamp sales in Hollywood. Upon graduation from the Massachusetts Institute of Technology, where he received his degrees of Bachelor and Master of Science, he joined the street lighting department of General Electric at Lynn, Mass., in 1925.

During the next ten years, Mr. Robinson was engaged in special lighting sales work for General Electric in Schenectady, New York, Chicago and Los Angeles. He was appointed to the post of division engineer of South Pacific in April, 1935, and supervisor of studio lighting and lamp sales in February, 1936.

Color Fashion News Reel Releasing One Each Month

An entirely new vehicle in the world of fashion news is the recently created American Fashion Newsreel, a color and sound presentation of American Color Newsreels, which will be released beginning Sept. 1, 1939, once a month for the nine months ending June 1, 1940.

Of particular interest is the fact that these "fashion in films" are designed as non-theatrical presentations and will be distributed exclusively to women audiences through the medium of women's clubs, community centers, colleges, groups and other women's organizations on a national scale throughout the United States and Canada.

A technique differing completely from

the usual Fashion films will be employed by the American Color Newsreels. Each picture will contain a series of sparkling full color "minute movies" of the latest creations in apparel, gadgets from the kitchen, hints for the hostess and up-to-the-minute suggestions for house and garden in town or country, enacted by color-screen tested models.

Each of the nine releases will be allowed to run only three months and will be withdrawn from circulation in order to guarantee the freshness of the fashion news.

Mogull's Fair News Ready

The latest issue of Mogull's World's

Fair News is off the press. Up to the minute with its listing of every innovation in the photographic and cinematic fields, it carries articles of interest and helpfulness to the expert as well as to the newcomer in still or movie photography. Over 1300 items at discount prices are listed.

Write to Mogull's, 68 West Forty-eighth street, New York, for a copy.

Erickson with Ampro

Harry E. Erickson, formerly with Erpi Classroom Films Inc., is now associated with the Ampro Corporation in Chicago as director of educational sales division.



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Praise Does Come for Camerawork

(Continued from Page 412)

say that the lights, shadows and reflections in "Juarez" were in my opinion magnificent.

Probably the best way to describe my reaction to the photography in this picture is to say that the figures, particularly in the closeups, stood out in very bold relief from all around them.

Indeed, I am sure you must be very proud of your efforts in connection with "Juarez." Kind personal regards,

RALPH CLARK, Jr.

The Layman Speaks

Scarcely differing from the enthusiastic praise of these people who are in the industry, and in some degree, at least, personally acquainted with Cinematographer Gaudio and his work, is this letter from a perfect stranger, a member of the great, unseen audience which is supposed to notice nothing but the players. A lady in Minneapolis writes:

It has occurred to me that very possibly the letters written to those in the

moving picture industry are directed, in the main, to cast members of a production, and not to those technicians whose work contributes largely toward making the entire project a success. Because of this I wish to tell you how tremendously much my husband and I appreciated your superb photography in "Juarez."

Those of us who see few pictures by choice are grateful for such a production as this recent Warner release. It would be difficult to single out particular scenes that were made doubly brilliant by the photography, but I want to mention at least the incomparable shots immediately following the signing of the decree by Maximilian, the symbolic, breath-taking flight into darkness by Carlotta, the casual shots of the vultures at the time of Maximilian's entry into Mexico City, and Juarez' audience with the European diplomats (this might have been a satiric comment on Rembrandt's technique in handling such scenes).

I don't know if the scene on the balcony of the palace at Chapultepec Park was actually shot there or in Hollywood, but even the tile floor was familiar, and there can't be but one Popocatepetl.

Thanks again for your splendid work.

I really should tell you before I close that many of our friends were so deeply impressed by it that they stayed long enough to learn the name of the photographer, and to say: "Well, someone should write to Mr. Gaudio and tell him how fine his work is." For the first time I have acted upon such an impulse.

Most cordially yours,

MRS. LUCILE D. VERNES.

Encouragement Appreciated

Such recognition is naturally a source of inspiration to the cinematographer. As Gaudio replied to this letter, "We may receive Academy awards for our work, awards given within the industry, but it is far more gratifying to receive letters such as yours typifying an audience that goes to see the picture for the story that is told. I assure you that such appreciation will be encouragement for better work in the future."

That cinematographers can and do make their individual artistic styles evident even to the non-photographic public is evidenced by a remark in a letter from the British electrical engineer, P. C. Smethurst, to this writer, which excellently summarizes the entire situation. He wrote: "I think I know the members of the A.S.C. by name as well as anyone over here, and I could certainly identify the photography of some of them at sight. It is strange how individual people always tend to leave their mark in some little way even on technical points, isn't it?"

Mexican Picture Industry Now in Difficult Position

Lack of demand for its productions has brought about a crisis in Mexico's domestic film producing industry, according to a report to the Department of Commerce from Commercial Attache T. R. Lockett, Mexico City.

Estimates place the number of locally made pictures which have not been exhibited at around 35. Very few companies which have been able to release all their productions have continued producing, the report points out.

Because of the acute situation in the motion picture industry which affects the studios, producers, and distributors, a petition to the Government for assistance was recently made on behalf of all these branches.

The first apparent result of this action, the report points out, was a promise made by the federal district authorities to enact legislation which will force local exhibitors to set aside 12 complete weeks each year for the exhibition of Mexican-made pictures. The proposed legislation is said to include first-run theaters as well as the smaller houses.

In order to stimulate domestic production, local studios have promised to reduce charges as much as possible, but it is not believed the reduction will be sufficient to encourage increased output, the report said.

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Eclair Camera Makes Hollywood Bow

(Continued from Page 420)

all the conventional accessories, and a few not ordinarily found as standard equipment. A footage-counter of the Veeder type is provided and placed directly below the finder. An accurate tachometer is also built into the camera, and should be a convenience in "wild" shots.

An unusually large square bellows is fitted in front of the camera, and slides on two demountable, chromium-plated rods. In addition a large gobo, mounted on an arm supported by a ball-and-socket joint, is fitted above the camera.

Several types of holders for filters, diffusion-discs, and the like, are provided. One type screws directly into the lens, to hold small, round filters and diffusion discs directly in front of the lens. A second type snaps into place in front of the lens and is equipped with metal holders for several of the standard 3 by 3 inch glass-mounted filters, or gauzes, and the like.

A film-notching punch is built into the camera. It is operated by a small lever outside the case, directly above the finder; the camera need not be opened for notching film between takes. A receptacle inside the camera catches the punchings. As has already been mentioned, a trimming clip on the side of the camera permits shaping the end of the film for convenient threading into the take-up core without the use of scissors.

Due to the light weight of the camera—its loaded weight is approximately 140 pounds—it does not need an unusually heavy tripod. The tripod supplied with the camera is only slightly heavier than those used for silent cameras, and is fitted with a Y-shaped reinforcement between the legs.

It has a spring balanced pan-and-tilt head which requires no additional friction for smooth operation and which holds the camera in equilibrium without being locked. Independent locking-screws are provided for the pan and tilt movements, however.

A simple adaptor-ring permits adapting this head to any standard dolly or boom.

Altogether the new Camerclair appears to be a most interesting step in camera design, and the results of the tests now being conducted under Hollywood conditions should be awaited with interest. According to the manufacturers, the new model has established an enviable record for durability in the other major production centers, even when, as in India and Egypt, it has been used far from recognized service facilities.

In Hollywood the Eclair organization has appointed the Fearless Camera Company, of 8572 Santa Monica Boulevard, as American sales and service representatives for the new camera.

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San Francisco Cinema Club

The regular monthly meeting of the Cinema Club of San Francisco was held Tuesday evening, August 15, in the Green Room, 1355 Market Street.

N. P. Dunne showed his 16mm. film entitled "California Trails." Club Member Robert McCollister showed 250 feet of black and white film on the "Ice Follies."

Willoughby's Issues Catalogue

Willoughby's, of 110 West 32d street, New York, has published "Equipment and Accessories for Better Pictures," and will be sent to any one requesting.

The book consists of 100 6 by 9 inch pages, and is illustrated.

Attendance in Tokyo

According to a report released by the Metropolitan Police Board, Tokyo, attendance at Tokyo's 296 motion picture houses totaled 71,304,484 persons during 1938. Total attendance at all amusement houses amounted to 86,598,627, an increase of 3,107,944 over the previous year.

Reports indicate that attendances at motion picture houses fell off by about 15 per cent in Tokyo during May, as compared with the previous month, but receipts still continued to be well above those for the corresponding period of last year.



Western Electric's cardioid directional microphone takes its bow in Hollywood. Here a sound technician adjusts the new mike to accommodate the voice of Miss Shirley Ross, while Production Chief Homer Tasker (extreme left) and Loren L. Ryder (right), director of recording for Paramount, look on.

Photograph from Electrical Research Products, Inc.

New Seeman Titler Is Making Real Hit

The New Seemann Titler, one model fitting practically all cine cameras, is making a hit with moviemakers. Keeping abreast with the advance in amateur cine technique, Seemann's now offers a new titlemaker embodying many new features not to be found as a rule in other titlers of equal price.

The camera is raised or lowered, moved forward or backward until the camera lens is flush and centered on a celluloid disc marked with circles. The auxiliary lens is then substituted for the celluloid alignment guide and the camera is accurately centered.

Standard typewritten or hand-lettered title cards may be used. A large square celluloid guide fits over the card holder frame which clearly shows the true title area covered by the camera lens.

In addition to the regular title lens, an auxiliary lens of 30-inch focal length is supplied, which enables the user to photograph the large sized title cards with the many types of movable letters now on the market.

Two rollers, with hand cranks, are attached to the upper and lower part of



the title holder frame. These enable the user to make the professional type scroll or rolling titles.

Practically all 16mm., 8mm. and 9½ mm. cameras will fit on the new Seemann titler. This is accomplished by the unique and flexible camera base and alignment guide.

The Model B is equipped with two reflectors, adjustable to practically any angle desired. Each light has a separate switch. The lighting equipment may be added to the Model A at a small additional cost.

Model A, without lights, is priced \$6.95. Model B, with lights, is \$9.95. The price includes two lenses, title cards and complete instructions.

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J. BURGI CONTNER

CABLE CINECAMERA

Filters Cannot Perform Miracles

(Continued from Page 421)

No color filter ever made will do any good there, for the action of a filter in darkening the sky is simply holding back the blue—and when you haven't any blue to hold back, you're simply out of luck.

On the other hand, a polarizing filter, like a pola screen, will often do the trick. The most common cause of those washed-out, colorless skies is a haze which comes from polarized light.

In such cases the pola screen can cut out the polarized rays, and give you the desired result far better than any filter. Even this isn't much use if you are shooting at an angle of less than 90 degrees from the sun. In such an instance, though, you'll find ordinary filter effects will decline sharply, too.

By this time, I can imagine a lot of folks are beginning to wonder if there's going to be anything said about filters and Kodachrome. Obviously, ordinary color filters are useless for Kodachrome, since their color would change the resulting picture.

With of course the exception of the pinkish filter which balances Type A Kodachrome to daylight, I have yet to find a filter which is of much real value with color. The Eastman experts make and recommend the colorless "haze filter" for extreme long shots, to absorb the invisible ultra-violet which will obscure the distance with a bluish veil.

About Pola Screen

Among both professionals and amateurs opinion is sharply divided on this filter. Some like it, and some don't. But to my mind, there is a far better device for the same purpose in the pola screen. This simply absorbs the scattered, polarized rays forming visual haze, without cutting out much of the blue and ultra-violet which give the slightly bluish cast we habitually associate with distance.

As a result, the distance is properly clear, the haze most surprisingly penetrated, without any apparent alteration of natural coloring.

If you doubt this, there is excellent proof available in the truly beautiful Kodachrome films made by William B. Yale, S.A.C., in Glacier National Park, which are now being exhibited all over the nation by the Great Northern Railway.

In the majority of the extreme long shots in his films—long shots in which the distant horizon may have been well over a hundred miles across mountains and valleys from the camera, Yale used his pola screen instead of any filter.

Other scenes, made at the Grand Coulee and Bonneville dam projects in the northwest, offer a more direct comparison, as some shots were made with the pola screen, and others, but a few minutes before or after, without it. In every instance the polarized scenes are far and away the best.

In addition, other scenes of a more normal nature are given spectacular "Maxfield Parrish" blue skies by the same pola screen. So I'd suggest every serious Kodachromer should get acquainted with the pola screen, for it will serve his color cinematography in the same way color filters enhance monochrome scenes.

Eastman Adds Four Books of Reference to Its Library

Worthy reference material for any photographer's library, four new Kodak data books at nominal prices are announced by the Eastman Company.

These books, now available through dealers, present a tremendous amount of specific, practical information in handy form. Designed for clearness, they will lead almost any photographer to a more accurate understanding of the materials he uses.

The books, in uniform 6 by 8½-inch format, are: "Kodak Films," 56 pages, 15 cents. Discusses Kodak Roll Films, Film Packs, Miniature, and Sheet Films. Photographic characteristics of the

films, such as speed, contrast, and the like, are described, and the sensitometric terms are explained. Methods of determining film speeds and meter settings are also discussed.

"Kodachrome, Photography in Color," 52 pages, 25 cents. A comprehensive discussion of Kodachrome Film, and data on its use for full-color filming. Exposure technique both in daylight and artificial light is treated, and advice on using a photoelectric exposure meter is included.

"Wratten Filters," 40 pages, 15 cents. This book deals with filters from both the practical and theoretical standpoints, and will appeal equally to the commercial photographer and the serious amateur. Diagrams and illustrations in black-and-white and color supplement the text and demonstrate the use of various filters and the Kodak Pola-Screen. Reference tables aid selection of the proper filter for a given need.

"Eastman Photographic Papers," 48 pages, 15 cents. Offers full information on the various brands of Eastman photographic papers, and deals at length with their photographic and physical characteristics.

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Wholesale Camera Supply Making Reduction in Price

The Paramount lens shade and filter holder, being issued by the Wholesale Camera Supply Company, 122 East Seventh street, Los Angeles, is being reduced in price all along the line. The holder is constructed of heavy duralumin and perfectly machined by hand. The two-piece construction allows the filter to be held firmly in place, and it is possible to change filter or diffusion disk without the use of individual holders for each filter. The inside is painted with a flat black to reduce the possibility of reflection.

Paramount sunshades and filter holders are packed in individual boxes and are available in many sizes. In these are Cine-Kodak 8mm., f3.5, f2.7 and f1.9; Bell & Howell 8mm. f3.5 and f2.5; Keystone 8mm., f3.5 and f1.9. In the thirty-odd others, where the outside diameter of lens barrel ranges from 22mm. to 60 mm., the price runs from \$2.50 to \$6.

Hirsh & Kay of 239 Grant avenue, San Francisco, have been appointed distributors for the Paramount line of sunshade and filter holders.

Kodak Precision Enlarger Unique

(Continued from Page 417)

in three focal lengths and two complete series—one series intended for black-and-white work, and the other for color as well as black-and-white.

Unlike camera lenses, which are optically corrected to give maximum resolution when set at infinity focus, the projection lenses for the Kodak precision enlarger are especially corrected for use at the ranges commonly employed in enlarging, copying, and similar short-distance work. Each lens is available individually, mounted in an aluminum lens board that fits into the enlarger.

Two Series Lenses

The modestly priced series of Kodak projection anastigmats, 2-inch, 3-inch, and 4-inch, all of f/4.5 aperture and with iris diaphragms closing down to f/22, are high grade enlarging lenses

intended for the usual run of black-and-white work.

The other series, the Kodak Projection Ektars, are Eastman's finest enlarging lenses. These lenses are ground and polished with the greatest accuracy according to formulas that assure optimum color correction and freedom from astigmatism. Particular care has been taken to correct them for lateral color, so that when color separation negatives are made images of identical size are obtained through each of the three separation filters. These Ektar lenses are supplied in 2-inch, 3-inch, and 4-inch focal lengths, all f/4.5 stopping down to f/22. Click stops are provided, so that the diaphragm can be set easily in darkness.

A series of interchangeable condensers is also available, to provide full efficiency of illumination with each lens. Each condenser consists of two condensing lenses and a disk of heat absorbing glass, in special mount with handle, so that it can be lifted out readily for interchanging.

Precision Enlarger

The Kodak precision enlarger beautifully combines the speed of the condenser-type enlarger with the ability to produce print quality comparable to that achieved by enlargers of the diffusion type. A white opal bulb and spherical, matte-surface reflector introduce the desired amount of diffused light to

minimize scratches or other blemishes on the negative surface—defects which are exaggerated by the specular light from a condenser enlarger of conventional design. Moreover, the tendency toward increased print contrast is avoided.

To assist workers wishing precise and rapid determination of the length of exposures when making enlargements of various sizes from negatives that differ in density and contrast, an Exposure Meter Bracket A is available as an accessory. This permits use of the No. 715 or No. 650 Weston Exposure Meter.

Due to the rapidly-growing enthusiasm for making color prints, the Kodak precision enlarger has been designed to bring new ease and accuracy to the making of fine quality color separation negatives. Two special glassless film carriers are available to hold miniature Kodachrome transparencies—one for 35mm., the other for Kodak Bantam transparencies.

Each carrier has a built-in gray scale and three tiny color-separation filters. The gray scale records on each separation negative and provides a basis for comparing the density and contrast of the three. Each filter prints an identifying dot on the edge of the proper negative, and from the position of this dot the operator can instantly determine the separation filter used in projecting that negative.

"Film Index" Nearly Finished

Work on "Film Index," the 800-page bibliography of motion picture literature in preparation by the Federal Writers' Project of New York City, has advanced to the final production stages, with the editing of galley proofs under way.

The volume will be distributed by the H. W. Wilson Company, which shares publication sponsorship with the Museum of Modern Art Film Library. It includes classified and annotated guides to some 10,000 books and magazine articles dealing with the creative and technical aspects of film making.

It will also offer references to selected reviews of some 4000 important films classified according to type. The book will sell for \$10 a copy.

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Pictorialists Hold Annual

The Twenty-third Annual International Photographic Salon of the Camera Pictorialists of Los Angeles will be shown in Los Angeles Museum January, 1940, and M. H. De Young Museum, San Francisco, February, 1940. Closing date is December 1, 1939. Entry fee, \$1 or foreign equivalent. Address Larry Lewin, secretary, Los Angeles Museum, Exposition Park, Los Angeles.

Planning a Vacation Script

(Continued from Page 422)

again—some of that sort of thing, you know—of the family leaving the car—some sort of shot to show that you have been away—the neighbors greeting you on your return.

The script does not have to be followed like the laws of the Medes and the Persians. You can add a bit here and there when you think the occasion demands—but you will have a story in story form, a story told in pictures, something you'll be proud of, and your friends will deservedly praise you for your artistry.

Nothing has ever been done good in this world without a plan and a little hard work. Don't work so hard at it that you take all the fun out of it, but don't be lazy either. A little work and a little study will repay you a million-fold.

Something to be proud of—a bit of artistry well done.

Around the World's Studios

(Continued from Page 405)

same methods familiar in Hollywood, and has standing sets, complete streets and the like, in great variety. They also have an open air "lot," having "free horizon" with a slope rising 150 feet high.

The system of production is practically the same as in a Hollywood studio, with the single exception that in addition to providing these extensive facilities for their own production, the Ufa executives make them available on rental to smaller production concerns.

French Studios Small

My next visit was to France, which has many production concerns, none of which is big. Their stages and production system, with the exception of the lighting and technical equipment, are surprisingly similar to that of India.

The French stages are small, and there are no elaborate outdoor standing sets. The few studios I visited were built in the old, silent days, and were not used very much for many years, until the coming of the talkies. Then the natural impulse to produce pictures in the French language brought them to life again, with of course the physical changes necessary for making sound films.

Today, strange as it may seem, France

has one of its biggest competitors in Hollywood-made films. The dubbing of French dialog on American pictures has acted as a sort of brake on the French producing industry.

I have seen a few of these American pictures dubbed with French dialog, and it is so cleverly done that hardly any difference can be found between the picture originally produced and the one with dubbed-in dialog.

So, while French producers may at times make a remarkable film like "May-erling," there is little inducement to do so now that they can have satisfactory French dialog in films that have all the good points—technical and box-office—of American films. This, of course, is very much to Hollywood's advantage, but it makes it difficult today to say which way France's film industry will head.

England Static

It was the greatest puzzle to me to find out which of the English studios was working when I went to England. I have heard that England has altogether some 76 stages, but most of them today are in a non-active condition.

Some of these stages—especially those in the newer studios—are very big, and can in every way be compared to the stages in Hollywood.

The British studios have practically all of the best equipment required for modern production, and can in no way be found inferior to the Hollywood studios.

In fact, they have several things I have not seen even in Hollywood. In some of the studios they have a river, bridge, and even a full-scale railway train.

As is equally well known, several of the British studios have made considerable use of Technicolor, and all the equipment necessary for making pictures in color is available there.

At times Hollywood studios have sent over production units to use British studios, and I am sure that the Hollywood people who have worked on these pictures have not found the facilities any

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less excellent than what they are accustomed to having at home.

Formerly, I understand, laboratory work in England used to present a serious problem, but that is not the case today. In addition to several really good commercial laboratories, some of the larger British studios have their own laboratories, perfectly equipped and excellently staffed.

In fact, the English studios have everything needed to make good pictures—even to excellent technicians—in case they want to make them.

It is really very difficult to understand why these companies do not produce as many pictures as the Hollywood studios, for they have every facility, and can make them for the English-speaking audience—the widest market in the world.

Hollywood Impresses

It seems almost unnecessary, writing in a Hollywood magazine, to set down my impressions of Hollywood's studios. When I came to America, my impressions about the Hollywood studios were not so astonishing, as I had already expected to find them huge and complete.

The thing which I found beyond my expectation is the marvellous system by which the studios work, and the number of productions they turn out. The departmental work, as I have seen, makes the work so much easier and better, and at times more interesting as well.

Every department has its own job, and can be depended upon to perform it perfectly. Linked together by capable production management, this specialization inevitably makes pictures which for consistently high quality cannot be approached by any other method.

It is really amazing for a foreigner to see men who in any other country would be heading their own organizations, taking their places as heads of individual production units or departments with the activities of all supervised and coordinated by a genius such as a Zanuck or Thalberg.

In the photographic field, it seems almost redundant to repeat that nowhere but in Hollywood is such an amazing array of the world's greatest photographic talent to be found.

Special Process Impresses

When, as we do in India and in many other lands, one has followed the work of cinematographers like Bert Glennon, A.S.C., and the other members of the A.S.C. as one might that of some greatly admired teacher, it is inspiring to be able to watch these masters of the camera actually at their work, and to realize that assisting them are men who in almost any other producing center would be regarded as artists in their own right.

Glennon, it may be added, was di-

rector of photography on "Drums of the Mohawk."

I was tremendously impressed with the work of the special-process department. This is something quite unknown in my country, and I fear likely to remain so for some time.

Process-shots are probably an old story to Hollywood cinematographers, but to a foreign visitor the technical precision involved in making these shots and their artistic and economic value are a revelation.

People often ask me how I find the Hollywood studios in comparison to those I have visited in other lands. It is very easily summed up.

To me, there are today two major centers of production activity in the world: Hollywood and India. I say this not merely because India is my country and the seat of my activities, but because I believe the facts bear this out.

Hollywood turns out more and better pictures than any other center largely because of its system of working and its supreme organization.

Hollywood Makes for World

The centralization of such astounding technical and artistic resources follows as an inevitable corollary of this. Hollywood's volume production and marvellous organization is a fundamental necessity of the fact that Hollywood makes pictures not for any one or two countries, but for the world.

Next to Hollywood come the Indian studios. They produce many good pictures, and do it in spite of limited capital and resources, and in spite of the fact

that Indian pictures are necessarily as yet confined to a limited market.

In addition, India's studios are staffed almost entirely with native technicians and directors, almost all of them necessarily self-taught, and working with pitifully inadequate equipment. But—they make pictures, and make better ones all the time, as they learn more.

One of the first things any cinematographer learns is the old saying that you can't put alibis on the screen. There is no practical benefit to be derived from telling what you are equipped to do—and not doing it; or from sitting passively dreaming of what you did yesterday, or might do tomorrow.

Hollywood and India do none of these things. They are active: they make pictures. In making pictures, they inevitably make mistakes; they turn out failures as well as successes.

But in any case, they both are always active, trying to make the best possible picture from the material at hand. They are the two vigorous, living entities in the world production map today.

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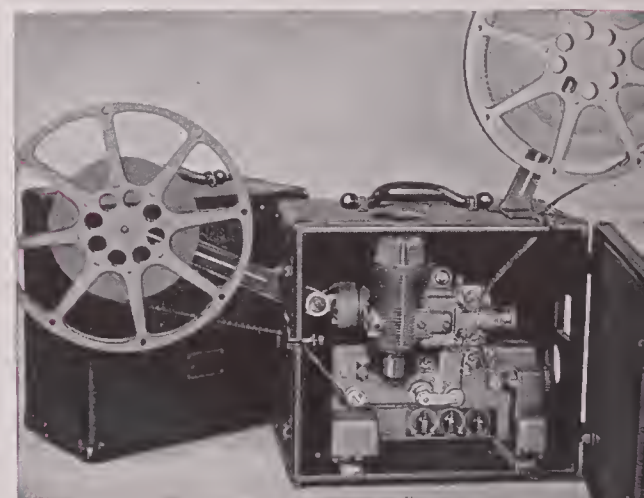
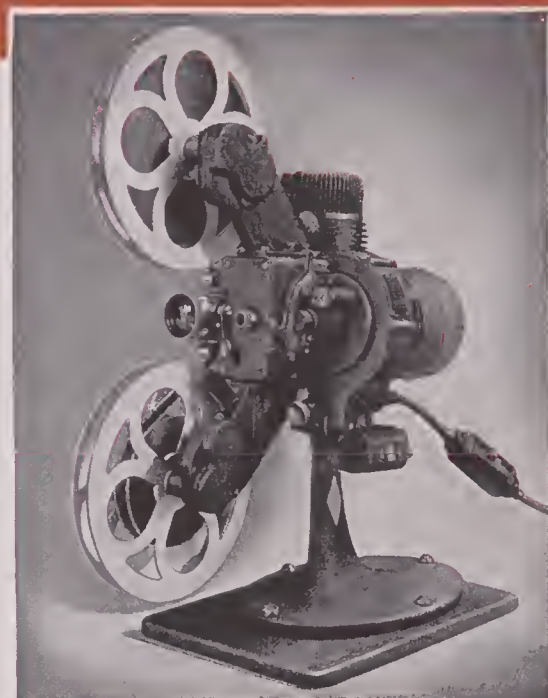
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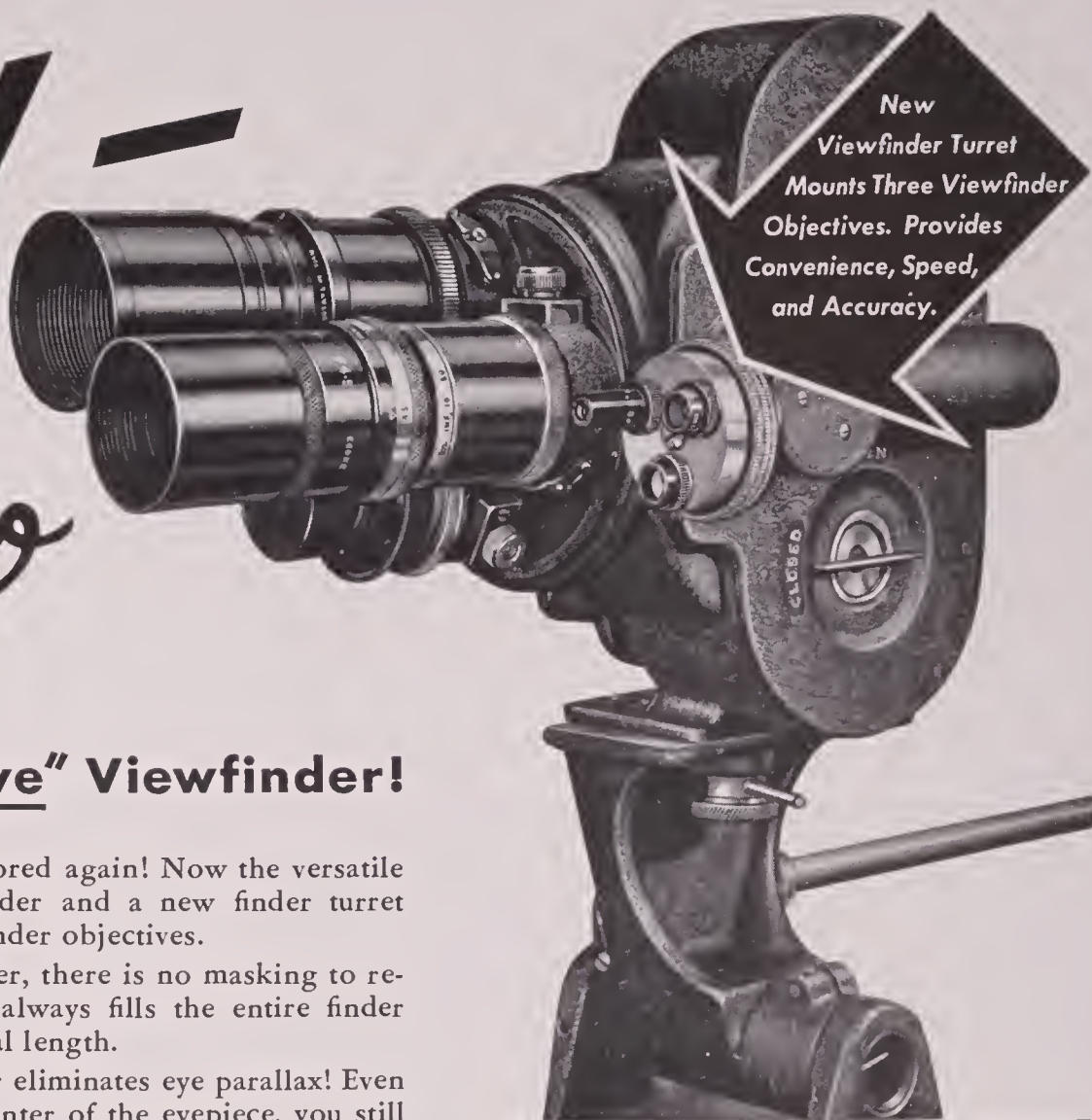


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Front Cover

IN THIS shot of the camera boom and cell tiers from the Warner Brothers "City of Lost Men" are seen, leaning on prison rail at left (left to right), Actors Burgess Meredith, John Garfield, Guinn Williams and Ed Pawley. On the camera boom are (left to right) Tom Branigan, Arthur Edeson, A.S.C., and Roy Noble. Directly under camera platform are Director Anatole Litvak and Chuck Hansen, assistant director. Garfield and Ann Sheridan co-star in "City of Lost Men." Camera crew watch the scene with interest.

Photo by Longworth**The Staff****EDITOR**

George Blaisdell

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HOW MOVING PICTURES ARE MOVED BY STILLS

By George Blaisdell

"MOVING PICTURES made this industry, but still pictures have kept it alive."

If true several years ago, when spoken by a pioneer showman, the words have more weight today.

Let's briefly review a few facts.

It is Hollywood's business to make pictures. Then arises the job of selling them—trying to sell them would be more precise, for the day has passed when exhibitors had only to open their doors, then get out of the way to avoid the rush.

Movies have lost their initial novelty. An enticing younger wench, radio, offers her charms free. Newspapers and magazines, quickening to new tempos, use

more features, lavishly illustrated—entertainment. A host of seeming non-competitors, like the week-end service station man, take a larger slice of the diminishing amusement dollar.

Seeing Is Desiring

To offset these facts, Hollywood is turning out better pictures than ever before. And to market those pictures it is relying on showmanlike publicity, with the latter's good, hard-hitting right arm being art—stills that sell.

Seeing is still believing to most people. It is also desiring, the way Hollywood publicity art functions today.

How better, for example, arouse interest in a new glamor girl about to start a picture than flash her smile from a dozen magazine covers at once?

How better stir the senses, while the picture is in production, than insinuate her seductiveness into layouts, portrait studies and arresting strip ideas in a thousand publications?

Every Move Planned

And, when her picture nears the zero hour of local release, how better whip interest to the buying point than by taking advantage of reminder value and letting her likeness caress the eye in posters, newspaper ads and lobby frames, all saying, "Here she is! Come and get it!"

Publicity art is a complex collective

George Brown, director of publicity, Columbia film studios (left).

A. L. "Whitey" Schafer, portrait photographer, Columbia film studios.

word. It means, briefly, many pictures in many places. And always for a specific reason, because, if the shot doesn't fit into a definite sales plan, its shutter should never have clicked.

Art today is conceived well in advance and as a unit of the general sales campaign. Long behind is the day when a harassed stillman tagged after the filming troupe, grabbed a few production shots when he could, then considered the picture covered.

To illustrate current Hollywood technique, it will be simplest to take one studio in relation to one picture. Consider, then, Columbia and "Mr. Smith Goes to Washington," the latest Frank Capra production. George Brown heads the publicity department at Columbia and supervises all art. A. L. "Whitey" Schafer is in charge of the still department, and Irving Lippman was the still photographer assigned to the picture.

For a better understanding of their joint task it is necessary to sense the scope of the Capra comedy drama.

"Mr. Smith Goes to Washington" is easily the director's most pretentious production. The story ranges from a colorful small town to the nation's capital and utilizes forty-three distinct settings en route.

168 Speaking Parts

Speaking roles total 168, a near record-breaking number. Because not all of the picture was made at the Gower Street studio the still department often was compelled to function far from its base. The company was constantly on the move, to the studio's Melrose Avenue annex or the ranch in Burbank, or to difficult location sites in Los Angeles' downtown streets.

Another factor was the number of important players; so many more people had, photographically, to be given "the works." "Mr. Smith Goes to Washington" co-stars Jean Arthur and James Stewart, and the number of supporting





players, truly "too numerous to mention," includes Edward Arnold, Thomas Mitchell, Claude Rains, Guy Kibbee, Ruth Donnelly, Eugene Pallette, Beulah Bondi, Harry Carey, Astrid Allwyn, H. B. Warner, Porter Hall and Grant Mitchell.

Columbia's publicity department went to work before the mimeograph ink had fully dried on the script. This was several weeks before shooting started.

First, as he always does with important productions, George Brown read the script. Columbia's publicity director is a veteran in the sales, advertising and exploitation fields as well, and he read analytically seeking points of attack.

Drafting Stills

Going along, he indicated how production scenes were to be covered, and in the margin noted ideas for strips, layouts, exploitation shots and such.

This preliminary attack required several days. When he finished the script bore as much copy on its margins as in the body of the text.

Next, Brown went into conference with Schafer, who would have to realize the former's plans in celluloid. The two went over all aspects of the undertaking before them, then drafted an outline of all stills to be taken. Art

One of the great casts in motion picture history enacts Frank Capra's "Mr. Smith Goes to Washington," a Columbia comedy-drama, with Jean Arthur and James Stewart co-starred in the romantic leads. Here are, left to right, Harry Carey, Astrid Allwyn, Beulah Bondi, Eugene Pallette, Thomas Mitchell, Claude Rains, James Stewart, Frank Capra, Jean Arthur, Edward Arnold, Guy Kibbee, Ruth Donnelly, Grant Mitchell, Porter Hall and H. B. Warner. Composite Photo by A. L. Schafer.

for "Mr. Smith Goes to Washington" came under the following classifications:

Seven Departments

STRAIGHT PORTRAITS — Singles, doubles and groups of leading players.

CHARACTER PORTRAITS — The same, but as the players appear in the picture.

ADVERTISING—Character plus action shots slightly broader in feeling than the character portraits so that they will be usable for poster and other outdoor advertising.

FASHION—Feminine players in styles sure to be in vogue many months hence; some sittings in color.

EXPLOITATION—Tie-up art in which players pose with nationally advertised merchandise.

PRODUCTION—Actual scenes from the picture taken during the period of filming.

PUBLICITY — Including art sometimes called informal and offstage; strips, layouts, "gag" ideas, seasonal stunts, montage, etc., intended for newspapers, magazines, news syndicates, wire services and other recognized outlets.

Getting the Jump

Glance again at the foregoing classifications, and remember that much of the art for "Mr. Smith Goes to Washington" was taken in the order of listing. A new working principle reveals itself.

Columbia endeavors to take the bulk of its portrait, advertising and exploitation art before a picture ever starts.

Thus, when set cameras start to turn the unit photographer can concentrate on production stills and timely publicity art. And a wealth of photographic material being already available, layout men and artists can get a flying start on the pressbook, posters and exhibitor accessories.

The several hundred stills comprising the comprehensive key set for "Mr. Smith Goes to Washington" divide fairly evenly



between gallery work and set shots. As explained, the former came first.

Brown and Schafer, working in close collaboration, arranged sittings as rapidly as players were signed. Schafer personally did the gallery photography, using the finest of specialized equipment, some of which he helped develop and perfect in the course of his long Hollywood career.

Ultramodern Gallery

Columbia's gallery, located in the stars' dressing room building, is ultramodern in equipment. The camera is an Agfa Ansco of the portrait type, fitted with adjustable standards which permit operation from floor level to a height of nine feet.

Two lens may be used, a 20-inch Cook f.4.5 and a 16-inch Heliar f.6.8. The shutter of the Heliar can be synchronized with a flash gun, thus making it possible to shoot fast-moving action under portrait conditions.

A noteworthy feature is the lighting equipment, all of Saltzman manufacture.

The 1500-watt keylight is a marvel of flexibility. It is suspended microphone-fashion on the end of a boom and supported by a counterbalanced stand-

James Stewart (being carried by senators in foreground) and players in a scene from Columbia's "Mr. Smith Goes to Washington." Photo by Irving Lippman.

ard. The base of the standard, when rolled next to the camera, permits easy, one-handed operation of the keylight.

Because it is of the pre-focused type, the lamp in the keylight does not project the image of its element.

An overhead spotlight and a floodlight, each of 1000 watts, complement the keylight and are sufficient for most gallery work. The floodlight is mounted like the keylight, on the end of an adjustable boom. Further, it is fitted with a spun-glass diffuser, considered far superior to the ordinary screen.

Another interesting feature of the gallery is its overhead monorail system. The rail is supported from the ceiling at a height of eighteen feet. Lamps can be hooked to the track and moved anywhere at will.

Kodachrome in Stills

Considerable color photography figures in the excellent art campaign developed for "Mr. Smith Goes to Washington," and all this work was done in

Kodachrome. The resulting transparencies are sent in that form to magazines that prefer to make their own separations, otherwise the breakdown is made by the studio.

Irving Lippman, the unit still man, used three cameras in his daily work on the sets. His standby, of course, was the familiar 8x10 Agfa Ansco view camera, in this case equipped with a 12-inch Goerz Dagor f.6.8 lens.

For all news, syndicate and action art Lippman employed a 4x5 Speed Graphic with synchronous flash. To supply all the current outlets for candid camera photography he took hundreds of Leica shots, the camera using 35mm. motion picture film.

All of Columbia's Leica photography, it is worth noting, is done with short ends of regular motion picture stock.

"Outstanding" scarcely does justice to "Mr. Smith Goes to Washington," the production, unquestionably Capra's greatest screen achievement, and the same might be said of the art campaign which was created with the sole aim of selling the picture. One moves, the other stands still. But both go forward to set new precedents in how movies can be made, then thoroughly sold.

FORMING COOPERATIVE AMATEUR PRODUCTION UNITS

By BILL SEINEKE, JR.,

WHILE it is true that for some time amateur cinematographers have banded together for the purpose of jointly producing scenario pictures, such organizations have been the exception rather than the rule. A reliable source informs us that the practise of working in crews has been wider spread in England than in the United States.

This information is rather surprising, as Americans have come to be characterized as excellent organizers. But if American amateurs are tardy in their recognition of the relatively vast number of opportunities offered by cooperative production, then it is our hope to add impetus to the movement in this country.

We propose to do so by recommending several basic principles for the organization of amateur production units. The recommendations are based upon experience in the field, experience which has shown pitfalls to be sidestepped which can otherwise mount into imposing and unnecessary costs.

Most often heard is the lament: "But I can't get next to anyone who will do it!" Do what? Write, act, direct. Attend to the innumerable details essential to the very beginning of the production of a scenario picture.

The Man He's Looking For

Advanced amateurs, sated with the sort of thing they have done for years, are as vociferous in their complaints as the beginner who wants to plunge squarely into dramatic production.

The cinematographer with whom we have gained something of an insight into the intricacies of ambitious moviemaking said when we had completed one short: "I've been looking for someone like you for years."

He meant that he was tickled to death to find people who would share his enthusiasm for cinematography, and (most important) who would string along with him until the finished production was stamped with their joint approval.

We were equally thankful to find a man who echoed our own ambition to stage good drama convincingly and entertainingly. We said "stage" because previous to joining forces with him, our avocational medium had been the amateur theater, a world of cues and prosceniums and footlights.

Since our meeting, a whole panorama of fascinating projects has been revealed to us both. He concedes our ability to manufacture and render story and histrionics.

We recognize that he is an above average technician, among the topnotchers in amateur cinematography. Our association has been productive and more than satisfactory to date.

Strong on Alibis

Astonishing to us was this man's statement that he had been unable to find needed amateurs from other fields who would string along with him.

And as if to demonstrate that the condition is epidemic among cinematographers, we are hearing the cry repeated almost verbatim by members of our expanding circle of cinema-minded acquaintances.

We can arrive at only one conclusion. The average cinematographer must be unaware of the potentialities within his reach. He must be oblivious to the indisputable fact that somewhere near him are those individuals who would welcome the opportunities to write, direct and act in amateur motion pictures.

Why, such people even organize into groups for the betterment of their respective amateur skills!

Probing deeper, we think we have found the reason. Let us state it unblushingly and then proceed to the remedy.

When he casts about among his friends for cooperation, the amateur movie bug gets responses like these: "I can't act." "I take a terrible picture; it ages me." "Can't give up my Sunday golf." "I'm tied down (married)."

All perfectly valid alibis, some of which can be gotten around. But instead of showing the hopeful camera addict that he is up the wrong alley, they usually cause him to become discouraged.

Eventually he gives up the idea of doing a scenario picture at all, takes pictures of his friend's Sunday golf and of the others when they aren't looking.

Scenario Film

Occasionally his friends indulge his whim. The picture is made in good-natured, slipshod fashion, and the result is pretty awful.

Now we have summed up the situation as it painfully presents itself. We believe you will agree it is a fairly accurate picture of most amateurs. Let's turn to the first step in the making of your scenario film.

Being the first, the acquisition of a writer is probably the most difficult hurdle. Once you have him, he will aid you in the selection of a story, your second hurdle. Together, then, you can much more easily round out the personnel of your company, which will be your third.

The writer should be, among other things, a dramatist. So, if you are in a position to exercise a preference, choose one whose forte is playwriting. Getting that type of person is *your* task, but we suggest that you may find him in the employ of a newspaper or attending a night school class in creative writing.

Of course, it's possible that he may be, vocationally, a cement finisher or the floormanager in a women's apparel shop. But, surely, one of your friends has a friend who has a friend who can write.

Don't balk at the length of time you may have to spend to locate this man. What he can do for you will be worth it.

Stage and Screen

If you are very lucky, your writer will possess a knowledge of certain fundamentals of camera technique. If you are wise, and he is not educated in this respect, you will see to it that he acquires that knowledge.

You will show him how much greater is the scope of the camera than that of the stage. In return he will remind you of restrictions imposed because of the necessity to use written subtitles in lieu of spoken dialog.

Attend movies together. Later discuss them thoroughly. Absorb what you both can of the technique of dramatizing story material for the screen.

Assuming that your writer is a dramatist and can translate what he has written into convincing dramatic action, by all means make him the director of your company. If he has written plays, he has probably taken part in them. Their mechanics are as clear to him as is the function of your camera to you.

(Continued on Page 476)

John Grierson: Maker of Documentaries

HOLLYWOOD has been visited during a part of September by a man in whom it has manifested a lively interest, an interest in what he has accomplished and in what is felt he will accomplish in the years to come. For he is a young man yet, with plenty of time ahead.

John Grierson is on his way to Australia and New Zealand, on the invitation of the governments of both countries. That is, he was invited and will accept the invitation unless he gets a message to return to England for some work in connection with the war.

He has been invited to make a survey for the Government of the island continent as to the use of films in connection with department service and on a national basis—to bring news of one part of the country to other parts and to project themes of common interest to all parts of the country. Carrying the country alive to other countries is also an important function of the documentary film.

This is in line with the spirit manifested in the Government of Britain and in the Dominion Governments throughout the Empire, such as Canada, South Africa and New Zealand, to widen the influence of films.

Canada took the lead last year by coordinating activities under a national film board and appropriating a sum of money for national films distinct from department films. Other Governments did likewise.

Many Activities

Grierson was active in building up the English documentary film school, as well as the Empire Library, E. M. B. film unit and then the G. P. O. unit. He also created the service for road showing.

Between five and six hundred documentary films have been produced during the past ten years. It is true some were made earlier, like "Nanook of the North" in 1920, only at that time we did not know it was a documentary. We knew it was different. For example, it had no lovemaking in it and yet it was box office. Omitting that was a matter that was anathema to the theatre. It

was enough of an upset in the theatrical world to start every one asking as to the identity of Robert Flaherty.

When the producer was asked as to those of his productions which he considered the more important, those which possibly had a greater influence on the growth of the Documentary, he said he believed these to be representative:

"Drifters," made in 1929, a film of the North Sea herring fleet; "Industrial Britain," 1933, film of the craftsmanship of the industrial Midlands; "Weather Forecast," 1934, collecting and dissemination of news relating to weather conditions; "Night Mail," 1936, typical of modern organization, the nightly journey of the postal special from London to Scotland.

"Housing Problems," 1935; "Children at School," 1937, surveys of the English educational system, and "The Londoners," 1938, film to celebrate the jubilee of the London County Council, with sequence of historical reconstructions and contemporary activities—the three under the general heading of social problems.

As to the number of films in which Grierson has had a finger—as producer or director or been in some manner associated—the figure easily is well over three hundred. They are of the widest imaginable variety.

"Uncharted Waters," produced in 1933 by Grierson, was a filming of the initial stages of a survey of the Labrador coast by the Admiralty survey ship Challenger. "Coal Face," produced in 1936, was an impressionistic survey of Britain's coal industry.

"We Live in Two Worlds," 1937, was a film of national and international communications, with a special reference to the telephone. In 1933 Grierson produced "Aero-Engine," a film of the technical processes of the manufacture and testing of aeroplane engines, with a final reel of their behavior in the air.

Range of Character

"B.B.C.: The Voice of Britain" Grierson produced to show the organization and social implications underlying national radio in Britain. "Lancashire at Work and Play," which Grierson pro-

duced in 1933, was a survey of Lancashire's industrial development over the last hundred years due to the power of steam, coal and electricity.

Taken from a large number of films, these illustrate the range and character of the films that have been in the Grierson list. No wonder that in an informal talk made on the evening of September 9 at Bell & Howell auditorium to a group of teachers the visitor said: "Primarily I am an educationist."

Perhaps no better definition of the meaning of the documentary film can be ascribed to the man who has made so many of these than to quote from his preface to Paul Rotha's book of "Documentary Film":

"The documentary film has always seemed to enjoy an importance beyond itself. This importance is best explained by relating the documentary film to the needs of our time. Some documentary practitioners have adopted it for the simple and good reason that it gave them a chance to play with certain intrinsic powers in the medium.

"Others have seen in it an opportunity to make contact with the living materials of the contemporary scene and to do so on the most honest terms possible in the cinema world. But the drive for documentary films has a deeper bearing still. There was a time when we said that the special virtue of the documentary film lay in its capacity to 'cross gaps.'

"We meant the gap between the citizen and the community: in more specific terms, such gaps as existed between the schoolroom and the community, the research station and the farmer, the modern organization and its members, or the modern organization and the people it served. Like many, we were conscious of a sense of failure: the failure to 'comprehend' the fast moving, ever more complex, forces of modern society.

Change in Principles

"We had a sense that the principles of education had to be changed to meet an urgent need that new instruments of comprehension had to be developed. We posited the idea that these instruments had necessarily to be dramatic instruments, for the academic and rational measures were, of their nature, failing to catch the scope and bearing of the corporate and vital forces moving in our midst.

"In the documentary uses of the radio and the film we saw new ways of educating public opinion in a democracy. They were dramatic and popular media. They had within them the magical powers of comprehension we sought.

"They were capable of establishing a continuing living contact between the individual and the vast drama of giant forces in which he too inconsequently wandered. We conceived of a new educational system which would comple-

ment the pedagogic services of the schools and give people a sense of their citizenship."

Mr. Grierson declared the cumulative circulation of the documentaries was great. He added that the good documentaries made top money in the best theatres and made the widest appeal among those audiences more fortunate in the way of education.

"A non-theatrical subject is not necessarily a step-child. Far from it," he declared.

Since the inception of the British Cinematographic act the producer has been one of the two producer members of the film council which administers the act, and incidentally controls the industry in respect of the act.

During his short stay in Hollywood Mr. Grierson was asked to address members of the Academy at its theatre in Gordon street—it proved to be a full house which refused to go home until 11:30 o'clock—as well as the meeting at Bell & Howell's previously referred to.

CINECOLOR MAKES CONTRIBUTION TO COLOR

By W. T. CRESPINEL

IN line with its policy of conservatism, Cinecolor has withstood desires to announce its two new products to the trade until exhaustive tests proved beyond doubt that actual production of these innovations could proceed on regular production schedule.

For over four years Cinecolor's research engineers, under the guidance of Alan Gundelfinger, technical director, have worked on the elusive problem of producing color prints in a single layer of emulsion, thus giving to the trade a film having the same characteristics as regular black and white, but in natural color.

A second development, now perfected, is the production of 16mm. prints in color and sound at a price that has met with such response that this department will need to work sixteen hours a day to even begin to accommodate the commitments continually being presented to the company.

Must Be Commercial

Reviewing the single-coated process, we are forced to look back over the art for a period of almost thirty years, where we find that attempts to accomplish this same result became the problem of color workers, patents having been granted to many inventors, such as C. P. Christensen, F. W. Kent, T. P. Middleton, F. W. Donisthorpe, W. F. Fox, F. E. Ives, W. V. D. Kelley, and so on.

Since this type of film existed only spasmodically on the market, it is obvi-

ous that the various methods employed were lacking in the fundamentals that might have spelled success. W. V. D. Kelley possibly progressed further than any other inventor, since he actually processed a quantity of color film in his laboratory in New Jersey, about fifteen years ago.

However, a study of the methods suggested by these color-experimentors indicates that their various systems were not fundamentally sound, results uncertain, and cost, when viewed from a strictly commercial viewpoint, beyond that of good business practice.

Thus Cinecolor's problem was to produce a product fundamentally sound from a processing viewpoint and, at the same time, to consider the all-important question of possible reduced cost, so that our customers would derive a twofold benefit.

As we have mentioned, serious experiments were started about four years ago. In the intervening period, at least ten different ideas have been experimented with, each one carried out to the ultimate, until the attempts narrowed down to one method, which method is now in operation at Cinecolor's Burbank plant, the methods employed being protected by patents and patent applications, both in this country and abroad.

New Product Superior

Results have proved that this new product is superior in quality to the old double-coated film, cheaper to pro-

duce, finer grain, possesses truer color rendition and, since single-coated film is a more desirable type of stock to make than double-coated film, from a manufacturer's viewpoint prints on single-coated film are much cleaner than on the old double-coated film.

Thus Cinecolor is proud to announce these facts to the trade. Another vital point is that double-coated prints have always been somewhat of a bugaboo to the theatre projectionists. Change of focus over black and white is necessary and splices must be made by scraping the emulsion from opposite sides of the two pieces of film to be joined.

Because the film has an emulsion on each side of the base, the prints are more susceptible to scratches than regular film. All of these objections are automatically eliminated by Cinecolor's new product which, as far as projection considerations are concerned, is handled precisely as regular black and white film.

With regard to 16mm.: Cinecolor recognized the demand for this type of film as far back as 1932, when the company was formed. For several months tests were made, but the growing commitments on 35mm. necessitated a slowing down of the 16mm. work, until it was finally necessary to stop work entirely in favor of standard film.

Builds Own Printers

Cinecolor's new plant was designed with ample space being allotted for the printing and processing of the 16mm. type. Considerable thought had to be given to the type of machines to be used and, after an exhaustive survey of all possible equipment available on the market, Cinecolor finally decided to construct its own printers and processing machines.

As an example of the care taken in the production of the various individual machines, one year's time was occupied in the designing and building of the equipment.

All 16mm. film must be on acetate or safety base and, since this type of film becomes extremely unruly when submitted to liquids, care had to be exercised in the design of the processing machines to overcome stretching, shrinking, and warping, which is an inherent weakness of safety stock.

Considerable thought also was given to sound. Very often 16mm. sound is vastly inferior to the original from which it is made. Cinecolor's engineers have developed a new type of positive sound track which is entirely new and novel and indications are that it will reproduce sound equal to the same track made on 35mm., providing, of course, that the sound head through which it is projected is in first class condition.

By the system which Cinecolor employs the cost of prints is reduced to a price which is the lowest in the history of color 16mm. prints.

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NOTE ON BUILDING NOVEL PROJECTION STAND

By WILLIAM STULL, A.S.C.

THE worst thing about home movies is that you have to show them at home. This means in most cases that every time you want to project film—whether it is a 50-foot roll or an evening's program—you have to clear the living-room table, rearrange furniture, and swish around with electric extension cables before and after each projection.



In addition, the average living room or dining room table, while an eminently steady base for a projector, is seldom of the right height to match your screen. Therefore you either have to tilt your projector, often distorting the picture noticeably, or build things up to the right height with a pile of books or magazines. The whole thing smacks more of ordeal than of fun.

Of course there are handy, tripod-like projector stands, and de luxe projector cabinet stands. But for most of us they are beyond the range of practical politics for dollars-and-cents reasons. So we do without.

A few months ago I moved into a house that offered a fine, big basement room which could be all mine, for a combination den and workshop. Inevitably it became a projection room, too. But the old problem of finding a suitable support for my projector still remained.

Any ordinary table would be too low, while a commercial projector stand would be, in a different sense, too high. So I compromised by making my own. It cost me roughly four dollars—and is more practical than any I've seen.

Make It Big

From the start I determined my stand was going to be big enough to be practical: there would be enough room for at least two projectors, plus an

It is convenient to have plenty of power outlets; three projectors are plugged in here, with room for a fourth. Note master switch at far end of table.

ample space for the film I was to project.

My projection problems are varied, for in addition to my own personal shooting in both 16mm. and 8mm., the matter of reviewing and analyzing other films frequently involves the use of a 35mm. projector, a 16mm. sound projector, or a minicam slide projector.

Therefore my stand must, I felt, be able to accommodate at least two or three projectors at a time, free from physical interference or the need of changing electrical connections.

This is a feature that can strongly be recommended to any individual, by the way, for many cinefilmmers double in brass with a minicam, and in addition cinefilming friends who use equipment of a different size have a way of calling with their film and projector—for an evening of movies.

It's a lot more fun if you can swing from sixteen to eight, or vice versa, without interruption.

Therefore I made my stand four feet long. This gives ample room for three, or even four projectors, and allows plenty of clear space for threading and operating them.

Since width is no great importance my stand is considerably narrower than the average table—to be precise, it is 1 foot 7 inches wide. This is amply wide to take care of even the biggest 16mm. sound machine, yet small enough to avoid waste space, which in most dens would be much too likely to become cluttered up with all sorts of things (entirely unrelated to projection!) which would be parked there for momentary convenience—and left until found to be in the way of projection!

The best way to determine height is to let your screen govern it: plan things so that your projector will have a level throw to the screen. In general, plan to have your projector's lens at the same height from the floor as the center of the screen: measure the screen center height, subtract from it the height of your projector's lens above its base, and you'll have the proper height for your stand top.

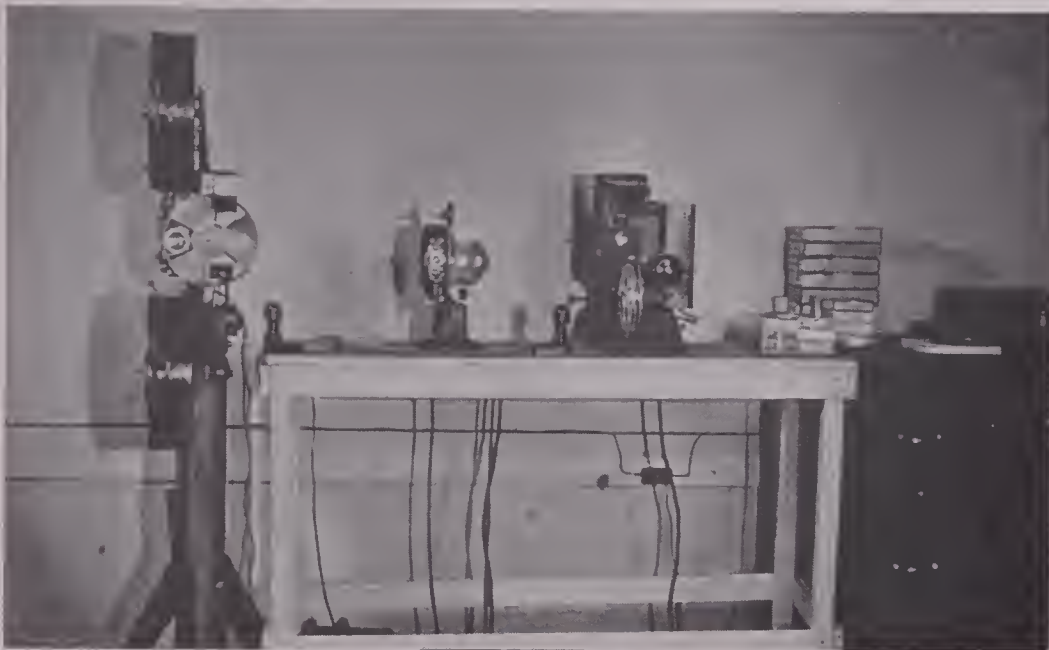
Simple Construction

In my own case, I had to conform to another fixed standard—the lens height of my 35mm. machine, a 100-lb. "portable" of fifteen years ago, equipped with its own rigid stand.

In addition, as several different sub-standard projectors might be used at different times, a further compromise was indicated. So I decided my stand should be 3 feet 6 inches high. In actual use I have found this height nearly ideal.

I started actual construction with some misgivings, for I'll readily admit that there can be no carpenters worse than I am. I felt even worse when I surveyed the three dollars' worth of assorted lumber I hoped to turn into a projector stand. There were four four-

The stand should be higher than the average table, and provide plenty of room for projectors and film.



foot lengths of sturdy 2 by 2 stock, half-a-dozen equally long strips of 1 by 3, three 1 by 6 boards, and a sheet of masonite "presdwood."

The 2 by 2s were of course for the legs. They began to look a bit like legs, too, when I connected each pair with a piece of the four-foot 1 by 3 at the top, and another, for reinforcement, about half-way down. Then, when each pair of legs was similarly connected by two 19-inch lengths of 1 by 3, the thing was really recognizable as a table.

One of the prime essentials of a good projector stand is a strong, solid top. The 1 by 6 boards provided this. To give a smooth surface above this I used the presdwood. This can be sawed to shape as easily as wood, and in addition to being smooth and strong it is not likely to warp, even when subjected to the heat radiated by some of the hotter minislide projectors.

This provides a framework which is mechanically adequate to its task. You can dress it up if you wish. For instance, an L-shaped binding of metal makes a nice trim for the edge of your presdwood top. The woodwork, too, can be finished off in style.

A shelf placed on the level of the lower braces can be handy for storing projector cases and the like; it's a feature not yet incorporated in my stand, but one which probably will be when time permits.

And some people may find that plywood paneling on three sides, extending from this shelf to the top, will make

the stand a neater appearing piece of furniture.

Wiring for Convenience

The final step in making a projection table like this is wiring it electrically. There's very little convenience in having such a table if you must still string a maze of wiring all over the room to get power for your projectors. One wire—with suitable outlets on the table—can do the whole job, and be safer and better looking.

I began by going to the dime store and buying four rectangular double outlets, at fifteen cents each, an equally cheap switch, two little fifteen-cent Bakelite night lights, a standard two-prong connector, and about fifteen feet of rubber insulated wire.

Connecting the plug to one end of my wire, I ran my cable from the nearest wall outlet to a rear leg of the stand and thence up to the side of the top brace. Here I mounted the

switch, so that I can have the whole electrical system of my projector set-up alive or dead in a single movement.

Beyond this master switch I placed two of the double outlets in convenient positions, so that the most frequently used projectors could simply be plugged in and left that way.

Then I carried the wire on and around to the front of the stand. Bringing it to the top of the table I put another double outlet at the right front corner and the second near the middle, also at the front.

Into these I snapped the little night lights. These serve as pilot lights, so that ordinarily there is no need to turn on the room lights for rethreading the projector between reels. As the type of night-lights I used are equipped with switches the pilot lights may easily be switched on or off independently.

Correct placing of these pilot lights is quite important. They must be out of the way, yet in a position where they will illuminate your projector adequately. I learned this the hard way—I tried to economize and use only one pilot light, placed at the front center of the table.

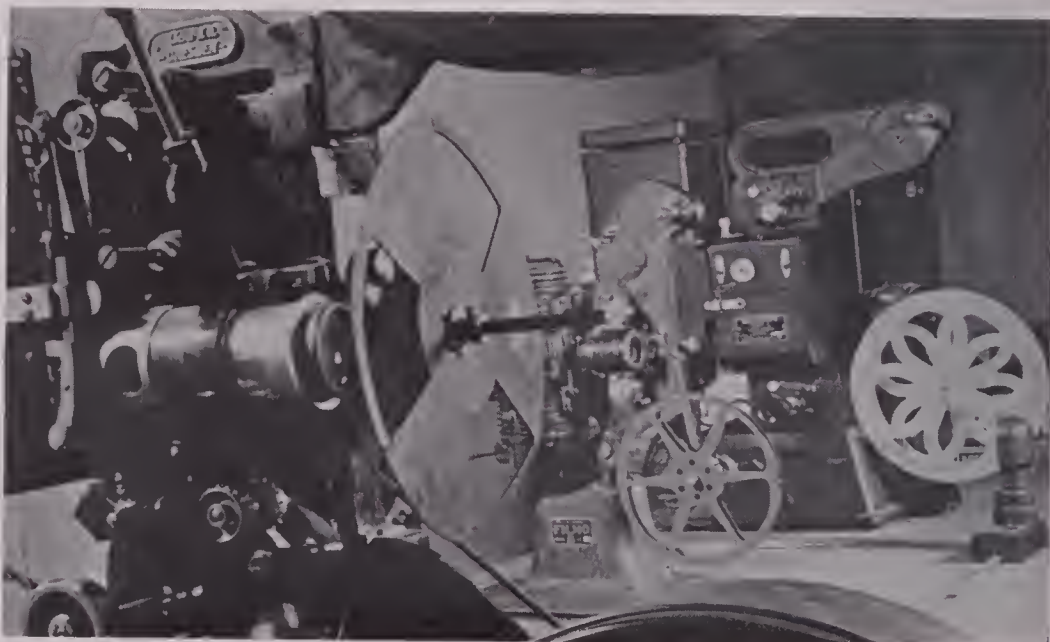
It was perfect as long as I only used the projector at the left end of the table, where the pilot-light could shine on the right, or operating side of the projector.

Invest 30 Cents

But if I used a projector at the other end of the table—or even a little beyond the middle—the pilot light was worse than useless, for it shone right in my eyes and disturbed my efforts at threading in the dark. The additional thirty cents for another outlet and another light proved a worthwhile investment.

To sum the matter up, a table of this sort not only provides a firm and always ready support for several projectors, but gives one plenty of room

(Continued on Page 474)



Fifteen years of projector progress—35mm., 8mm. and 16mm. Note lenses are at approximately same height for uniformly good projection; little tilting is necessary.

HIGH INTENSITY PROJECTION

VS.

LOW INTENSITY PROJECTION

A GLANCE AT THE FIGURES BELOW WILL SHOW WHY MORE THAN ONE THIRD OF THE THEATERS IN THIS COUNTRY HAVE ADOPTED HIGH INTENSITY PROJECTION

COLOR COMPOSITION



The even color balance of high intensity projection light gives natural and pleasing screen reproduction of color features. Lack of blue and excess of red in low intensity projection light distort the natural hues and beauty of color features.



VOLUME OF SCREEN LIGHT 2.7:1

SIMPLIFIED HIGH INTENSITY PROJECTION - 6200 SCREEN LUMENS

LOW INTENSITY PROJECTION - 2300 SCREEN LUMENS

Simplified High Intensity projection provides 2.7 times the volume of screen illumination obtained from low intensity lamps. This gives a clear screen image at a comfortable level of general illumination.

EFFICIENCY OF LIGHT PRODUCTION 2.5:1

Simplified High Intensity lamps provide 2.5 times as much screen light per watt as low intensity. You cannot afford to retain low intensity projection when a few cents more per day will give you snow white projection light in more than twice the volume.

ASK YOUR DEALER TO SHOW YOU THE LOW COST AND BOX OFFICE VALUE OF MODERN HIGH INTENSITY PROJECTION

LOW INTENSITY PROJECTION - 0.63 SCREEN LUMENS PER WATT

SIMPLIFIED
High Intensity
PROJECTION

WITH "NATIONAL" "SUPREX" CARBONS

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AND MODERN

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The light provided by modern studio carbon arcs has the evenly balanced color composition characteristic of the high intensity projection arc. Carbon arc lighting combines the photographic advantages of daylight quality with economy in power consumption and an absence of intense heat at high levels of illumination.

NATIONAL CARBON COMPANY, INC.

4000 MILE CRUISE AT SEA FOR AUSTRALIAN PHOTOGRAPHERS

PROBABLY never before in the history of the world was there an excursion that will match that conducted in Australia in July. We find a story of it in the *Movie News*, the house organ printed by the Australian Amateur Cine Society, written by an unidentified benefactor of the latter organization.

There were four hundred photographers, both cine and still, who boarded the steamship *Strathaird* in Sydney. They were drawn from all over Australia, which country, it may be added, is of some size. Getting down to cases, its 2,974,581 square miles is shy of the area of the United States by a trifle of 50,000 square miles.

While the writer of the story did not give the starting time he did say the ship stopped two and a half days in Brisbane and in Port Moresby a matter of a couple of days. The distance traveled easily was four thousand miles. The Great Barrier Reef, which was along the tourists' line of travel, runs north and south 1250 miles and parallels the east coast 60 miles off shore.

Port Moresby, the northernmost point of the travelers, is situated on the Island of Papua, which sets just south of the equator and reaches the tenth degree of latitude to the south. In fact, Port Moresby rides on the tenth parallel. It is there the village of Hanuabadha is situated.

It may be remarked in explanation of the writer's statement they left Sydney on a "cold, wintry day," the month was July, Sydney is "down under," in 34 south latitude, in the identical comparative location as Los Angeles on the west of the United States and Columbia, S.C., on the east.

But here is the story in the *Movie News*, and it is a matter of regret we are unable to print the writer's name.

P. and O. Photographers' Cruise

By an A. A. C. S. Member on Board

The Photographers' Cruise which left Sydney a month ago has been adjudged a complete success by all participating.

Drawn from all over Australia, over 400 photographers in Cine and Still made the *Strathaird* their hotel.

Leaving Sydney on a cold, wintry day, the run to Brisbane was made in perfect weather. Passengers readily availed themselves of the organization provided on board by the co-operation of the Queensland Tourist Bureau. Tours were booked for a large number of sightseeing trips in Queensland; where, in gorgeous weather, both Cine and Still photographers spent a most interesting two and a half days.

On arrival in Brisbane, we were met by a committee of the Cine workers of that city. The committee was rather disappointed that the photographers on board had their schedule fully booked and could not accept the invitations they extended. It was a wonderful gesture on the part of the Queenslanders and, no doubt, on future occasions their wishes will be taken into consideration when arranging local tours.

Photographers' Paradise

Leaving Brisbane, we headed for the Barrier Reef where, inside the Reef—amid placid waters and warm sunshine tempered by delightful sea breezes, the *Strathaird* just meandered its way among the galaxy of colorful atolls—giving the photographers a wonderful opportunity of recording island after island mirrored in chromes, yellows, and blues that were the delight of those who featured colour photography as a highlight.

The arrival at Port Moresby—just after daylight—was a scene that left the passengers almost breathless. No sooner had the anchor settled amongst

Strong Onions

From The Hollywood Reporter

Sydney—Camera squad from Cine-sound Newsreel boarded a tug to take shots of sinking of former navy ship, *Stalwart*. Hull of ship to be sunk was loaded with 800 tons of rotten, condemned onions. Newsreel men were overcome by stench from onions and did not get their shot.

the coral at the bottom of the bay than native canoes arrived, seemingly from all points of the compass. The natives diving for coins thrown to them gave the photographers wonderful opportunities of recording animated actions against the background of the calm waters and the dark jungle beyond. Under the gaiety and laughter of this welcome was heard the beat of the tomtoms in the distant hills, presaging the scene that would be enacted during the day.

Promptly at nine o'clock the passengers started to land; they were transported very quickly to the big village of Hanuabadha where the photographers got first glimpse of village life—and were they interesting! The rolls of Cine film taken here, when projected, will tell an amazing story of the varied scenes confronting us. From there—to the big singsing where the warriors had already started to dance, having spent the whole of the night before in preparation. Head-dress of Cassowary feathers were freely picked out. This head-dress, we understand, is the hall-mark of a warrior who has taken his man in the right and proper manner. The Chiefs wore head-dresses with Bird of Paradise plumes. The ceremonies and dances we witnessed were pictures few travelers are likely to see—even in Papua—as these dances were only held by special permission of the government.

Danced All Night

These Sons of the Jungle danced the whole of that day and the following night until daylight came again. Then, by law, the singsing ceased and for them became a memory of yesterday. We, the photographers, were more fortunate because we carried in our cameras the evidence of scenes enacted that will, I am sure, leave the beholder spellbound when shown in Australia.

The temperature at Port Moresby was up to 97 degrees but the warmth was not uncomfortable and everybody was dressed for the occasion. On the second day, we left Port Moresby on our return to Sydney and for two days we were still favoured with placid waters and warm temperatures. Passing Cape Byron, we ran into heavy weather but there again—"Variety is the spice of Life." Those photographers who for the first time on the trip were stricken with mal-de-mer listened with envy to their more fortunate companions who breasted the elements and took shots of the big seas that made it so uncomfortable for them.

Over 5000 still pictures were known to have been taken and over 3000 ft. of natural colour Cine was exposed. The amount of black and white that was also exposed would be hard to estimate.

Those who made the trip are certainly looking forward—if given the opportunity—to repeating it next year, maybe to some other island of the Pacific where pictures of the native life, villages, and sunny skies will add to their collection of Cruise mementos.

HOME MOVIES NEED SOUND

By Ormal I. Sprungman

Photographs by the Writer



The loud speaker portion of case is set up beside movie screen. Speaker cover is unhinged.

SOMETIMES one wonders how we ever managed to survive those prehistoric days when a broken down piano in a professional showhouse provided the only alleged musical accompaniment for otherwise silent films.

How we thrilled at Al Jolson's first big sound feature, "The Jazz Singer," and how green with envy were the jobless wind-and-string gents who promptly attempted to enlist public support in a futile war against that arch-demon—canned music!

Of course, sound and music with films could only be a fad. Every theatergoer in the country would soon demand a return to silent versions.

But somehow the demand became lost in the shuffle. Not only has enthusiasm popped up through the years, but even the most bleary-eyed, wool-dyed amateur cinematographer has been tearing his hair, figuring out new ways of adding sound effects and a voice to his sub-standard productions.

Efforts to make home performances compare favorably with professional sound presentations, to which most movie

fans had become accustomed, prompted considerable research among amateurs.

First of all were the word-of-mouth "talkies," whereby the amateur projectionist attempted to outsmart projection noises by shouting his running commentary as the film unfolded. Then somebody dusted off the once-abandoned phonograph, and for a while the palm-sized pickup arm wheezed out some merry tunes.

Record Players Accepted

Inexpensive phonograph record players, electrically operated and designed to plug into any radio, next hit the market. These were purchased and operated usually in pairs to permit cutting in sound effects while background music was being played.

Record players were widely accepted—in fact, many thousands are doubtless in use today—but there were still those among cine clans who wanted greater compactness and portability.

Soon dual turntables were being installed in discarded carrying cases. One

amateur even set one up in a woman's traveling bag. Every effort was being made to improve tone quality and simplify operation, and today—thanks to a handful of really serious workers—the acme of something or other has finally been reached.

One member of the Minneapolis Cine Club—a moviemaker for only three years but a radio amateur (W9CSY) as far back as he can remember—watched the sound parade purely as an observer. It fascinated him.

So he set out to build a dual turntable unit of his own (see August 1939 American Cinematographer, Page 360,) but it was a bulky affair, which required two Bunyan-muscled furniture movers to haul it around.

The outfit boasted of most everything any intelligent amateur might ask for—double turntables, cue sheet light, tone and volume control, and an easily removable loud speaker unit which nested into the base. In fact, it had everything but gas heat and running water.

Yet, it had its shortcomings. George Culbertson's moviemaking friends were



George Culbertson of the Minneapolis Cine Club is shown with his deluxe dual turntable outfit, which he built for sound synchronizing amateur-made movies.

The top of the carrying case, housing loud speaker, is easily removed from turntable-amplifier base. Compact, three-in-one outfit, weighs only 45 pounds.

Vertical view of seven-tube outfit having volume expansion—a new wrinkle which amplifies loud notes and gives natural depth to music. Note three pickup arms, each having separate pilot lights to aid record playing in darkened projection room.



free with their criticisms. Make it more compact, knock off some weight! No easy assignment, this, for turntables and motors are heavy affairs. And George knew that diminishing the size of a loud speaker often diminished tone quality.

An inch was lopped off here, a couple inches over there. Then he added needle cups for convenience. He put pilot lights under each pickup arm to aid in finding record grooves in darkened projection rooms. He even set up a third pickup arm for nimble-fingered fellows who like to take two cuts off the same record simultaneously or replay the same disc without the usual abrupt break.

To synchronize film action with sound effects even more closely, he installed push button cut-offs to bite off, say, a steamer whistling of any length from a continuous sound effect.

His turntables, operating at 78 rpm, would take either 10 or 12 inch discs. Volume expansion, a comparatively new wrinkle in radio, was also added to amplify the loud notes and give depth to normal recordings.

The carrying case, built by a nationally known trunk maker to exact specifications, housed turntables and amplifier, while the upper portion, unhinged, contained the built-in loud speaker, ready for immediate placement beside the movie screen.

As evidence of compactness, the fifty-foot extension was wound around metal fingers mounted inside the lid. Two of the fingers were designed to hold the turntable tops in position for carrying, while special clasps locked the pickup arms securely.

Show Is On

Such careful attention to minor details not only speeds setting up and operation of the equipment, but also adds to the enjoyment of sound synchronization itself.

In actual use, the turntable-amplifier portion of the case is set up on a table to the right of the projector. The selected recordings are placed to the right of the sound unit after removal of the discs from a partitioned carrying case.

A cue sheet for each film is set up conveniently before the operator for





Culbertson makes a final adjustment on underside of a five-tube turntable unit. The sound outfit has both volume and tone control, and is equipped with push buttons for split second synchronization. This five-tube sound unit, having two pick-up arms, is equipped for microphone plug-in. Culbertson, leisure-time turntable builder, radio ham for many years, has recently joined engineering staff of one of Columbia's chain stations.

Harbor sounds.
Wind and waves at sea.
Traffic on native streets.
Tom-toms for native dances.
Gulls squawking.
Birds singing.
Train arriving at station.
Airplane take-off and in air.

quick consultation, then the lights are dimmed and the show is on.

Now, every movie scene in most every film will put you in some sort of mood. If a butterfly is shown flitting about in your flower garden reel, you may start feeling sort of light-headed and jovial yourself.

But mountain and wilderness sequences make you feel differently, perhaps lordly and majestic. Properly selected music will help to enhance the effect created by your film, while perfectly synchronized sound effects will make the thing complete.

Some moviemakers would have us believe that the dual turntable, grinding out sound and music with disc, is low-brow entertainment, and only a stepping stone to the perfection supposedly reached by the more refined sound-on-film.

The truth of the matter is that double turntables can produce music far superior to the celluloid product, even varying background music with each performance, without worrying about the disastrous consequences of a sound film break.

Take it from a carload of amateurs the country over, it's a lot more difficult, yet a peck more fun, playing with turntables stuff than tinkering with celluloid recorded sound.

Wide Variety

By consulting the catalogs of Victor, Brunswick, Decca and others, a wide selection of background music may be obtained. Sound effect discs are available from several concerns,* and most any natural or man-made sound from the roar of the surf to a cricket's chirp may be had at prices ranging from \$1.50 to \$2.50 per double-faced disc.

Speedy-Q sound effect discs and cue card. Note individual "cuts," each representing different sound effect for home movie use.

While some thought might be given to the selection of suitable recordings during editing, usually detailed scoring is never attempted until after the film is fully edited and titled. It is hardly advisable, for instance, to synchronize sound with every bit of film action.

Short scenes do not warrant it, and it is much wiser to touch only the highlights and let background music cover up the remaining footage.

When the film is completed, ready for the addition of sound and music, screen it in its entirety and make a list of the major sound effects you think you may require. If it's a travel film, your list might run something like this:

*RCA Victor, Camden, N. J.;
Speedy-Q, 1344 Flower street, Los Angeles;
Standard Radio, 180 North Michigan avenue, Chicago.

Quick reference to any sound catalog will reveal that not only are all these effects available, but also in different forms. For instance, you can secure boat whistles ranging from the half-hearted toot of a fishing scow to the deep bass of a transatlantic liner. You can get howling wind all by itself or in combination with crashing waves and creaking timbers. As for trains, there are soot-belchers and diesels, while planes vary from one-lungers to Clipper ships.

Vocal Refrain Detracts

Picking your final music will be the hardest job.

Many amateurs are agreed that organ music is hard to beat for Kodachrome movies. Good classical stuff will also fill any order, but pieces should be smooth-flowing, free from loud blasts alternating with soft trickles. Because vocal refrains seem to detract from the film itself it is advisable to choose recordings of an instrumental nature.

One sound enthusiast of the writer's acquaintance studies the record catalogs, page for page, makes up a want list

(Continued on Page 476)



SMOOTHING ROUGH SPOTS OFF VACATION MOVIES

By WILLIAM STULL, A.S.C.

THE big trouble with vacation movies is that in most cases the movie is incidental to the vacation. Both the novice and the seriously advanced cinefilmer are likely to forget or slight the many little details of planning and filmic construction that build for a smooth running picture: Vacation fun simply makes serious movie-making take a back seat.

But when the last roll finds its way back from the processing plant the story is different. Vacation is over: now movie-mindedness comes to the fore, and the film suddenly becomes full of filmic "rough spots" that have to be smoothed away before the picture can be considered a creditable thing to show.

Such photographic imperfections as under and over exposure are for once of relatively minor importance when we reach this problem. There is very little that can be done about poor exposure, anyway, other than cutting out the badly exposed scenes. But there is a great deal that can be done to remedy the other, more important ills to which most vacation movies are subject.

Study Film First

The logical first step is to assemble the film roughly and study it. Since as a rule a vacation means going somewhere, we can generally achieve a satisfactory "first cut" by simply splicing the individual rolls of film on a reel in the order in which they were shot.

This first inspection often shows that the picture would become more coherent if certain related scenes were grouped together—with some, perhaps, moved up,

and others moved back. At the same time, it's extremely likely we'll find some scenes that obviously have no place in this vacation picture; these might just as well be eliminated at this point.

So far, we've got a strictly pictorial film, and even though the rough spots are making themselves increasingly evident, most of us find it all too easy to dismiss many of them by saying, "Oh, I'll bridge that over with a title!"

But if we let it go at that, and wait until we're really ready to tackle the final titling job, we'll make the sudden discovery that some of the gaps can't be bridged with any logical title.

Temporary Titles

Back in the days of silent pictures, when a film reached this stage of its growth, we used to insert temporary titles. These "temp titles" or "scratch titles," as we called them, were by no means the finished product; they were written reasonably carefully, but were quickly photographed, and cut in merely to give an indication of how the finished title would fit into place.

"Temp titles" are an equally good idea for the amateur film at this stage. Probably the easiest way to make them is to type them on white paper, and photograph them on positive film.

This way they don't cost much—half-a-dollar or a dollar's worth of positive film will usually title a whole picture, and developing the film only costs a few cents.

But it is really surprising how different a picture seems once these "temp titles" are in place. You begin to see which of the gaps really can be bridged

with a title and which will need some other sort of medicine.

Once you know that, you can begin to do something about it. You will find that the rough spots usually group themselves into four classes.

First are the scenes that drag or are repetitious. Second are the scenes that aren't there—the important shots which, like the proverbial big fish, got away. Third are shots that perhaps you couldn't be expected to get: close shots of yourself in the places visited.

Fourth are the yawning gaps where you jump too suddenly from one place, time or idea to another unrelated one. There's a way of curing or improving all of them.

Added Scenes

Dragging and repetitious scenes can be cured easily with a pair of scissors. Scenic shots that drag can almost always be shortened to good advantage: If the shot runs seven feet, trim it down to five or four.

If there is apparently dragging action in several shots in which a person, a train or a car apparently travels from one place to another, tighten up the exits and entrances: you can almost always cut just as such an object begins to leave the frame, and trim the beginning of the next scene to open with the object well—but not fully—in the frame. This speeds the action surprisingly.

Repetitious scenes are likely to be a by-product of "pet shots." Of course we're all proud of good photography—but why rub it in to the audience? A really good view shown only once or twice makes a much better impression than if it is repeated, with minor variations, half-a-dozen times.

But the scenes that are missing offer a slightly harder problem. Certainly, if you live in Los Angeles you can't conveniently go back after a scene you missed at the New York Fair! But you can suggest it if you use a little creative ingenuity.

Picture postcards and the illustrations of travel folders, photographed by means of a titler, can bridge many a gap and look—even in Kodachrome—almost as convincing as the real thing. And 2 by 2 minicam transparencies, projected on a translucent screen in a titler, can be amazingly realistic.

Also, if your picture is in black-and-white, you can bridge many a gap by the discreet use of footage from commercially produced 16mm. and 8mm. "Travelettes." One of my friends recently came back from Hawaii and let seventy-five feet of a 100-foot commercial 16mm. subject double in brass for the scenes of Waikiki's surfboarding he couldn't shoot for himself.

Closeups of Yourself

Commercial pictures will hardly serve in spots where you'd like to have a closeup of yourself to show that you, unlike "Sharlie" of beloved memory,

were "dere." For this, you can borrow a bit from studio technique.

The simplest trick is to make your closeup amid some similar scenery, carefully choosing an angle that eliminates any embarrassingly specific background.

For instance, if you have a shot of the parachute jump at the New York Fair, what is simpler than making a shot of yourself from a low angle, with only a sky background, looking up, and then apparently following something down with your eyes? Cut into the real sequence in the proper way, audiences will be positive you were following the jumper shown in the adjacent shots.

A single pine branch can suggest a Colorado forest; a Pullman—or even a day-coach—at the local station, shown close enough, can suggest boarding or leaving a distant train.

And if you, or any of your friends are miniature camera fans, the simplest method of all is available. Simply project the minicam slide that shows the desired background on to one of the small process screens that are available for amateur use.

Take up your own position a foot or so in front of the screen and arrange the lighting so that it is largely from the sides, and kept well off the screen. Then start the camera going and photograph yourself apparently in the desired, distant scene!

Adding Transitions

The final problem is in filling the gaps in continuity that you find when your film leaps too suddenly from one place or idea to another. Sometimes a title—especially a fairly long one—will do the trick; but there are times when a title isn't enough—when you feel the need of something to tie the two ideas together, or to put a figurative period to denote the end of one sequence and a capital letter to begin the next.

In many instances a simple added scene or two can connect them. For instance, if your film deals with a motoring vacation, and you find a yawning chasm between your sequences on two important places visited, a simple long-shot or two of the car on the highway—preferably with a fade-out and fade-in between the two background scenes—will suggest the idea of travel, and work in naturally with a title that says, "So we drove on to—," or "And here we are in—."

Of course there are times when local scenery can't well be used for such transitional shots; for instance, if the gap occurred between Yellowstone and the Grand Canyon, while your home was in New England, it would be almost impossible to "double" local scenery for the western desert!

In that case, a few closeups of an auto-wheel rolling along the highway might do, or a shot like that followed by a closeup of your speedometer with

the needle pointing to your favorite cruising speed.

Such inserts of a speedometer, by the way, can often be made without much trouble by simply jacking up the rear wheel of your car, putting the car in gear and running the motor up to the desired speed indication. Still easier—run the bus up on the neighborhood gas station's greasing hoist!

Fading Out On Developed Film

But there are occasions when neither an insert nor a title is quite the thing to use: when nothing will suit your purpose but a fade-out on one sequence followed—perhaps after a title, perhaps with no title—by a fade-in.

Fortunately, it is an easy thing to put in a fade on developed black-and-white or color film. This is done with Fotofade, a chemical which, incidentally, came into being partly as a result of an article by this writer published in this journal some six years ago.

For a simple fade-out or fade-in, simply hang a weight—an ordinary film developing clip will do—on the end of the scene that is to be opaque. Then, after moistening the film in water for thirty seconds, drop the weighted end in a jar of the Fotofade solution, lowering it frame by frame until the desired length of fade has been immersed.

Do this slowly enough so that the dark end of the fade will be in the solution long enough to blacken thoroughly—say a minute or a bit more.

It's Rosson and Davey

WINNERS of the Hollywood Reporter's poll of reviewers for the pictures released during the month of August were Harold Rosson, A.S.C., and Allen M. Davey, A.S.C., respectively black and white and Technicolor cinematographers. The subject was "The Wizard of Oz," MGM issue.

The vote for second was a tie between Oliver T. Marsh, A.S.C., and Joseph Ruttenberg, A.S.C., for MGM's "The Women" and F. A. Young and Joseph A. August, A.S.C., for RKO's "Nurse Edith Cavell."

There also was a tie for third position, the votes splitting between J. Roy Hunt, A.S.C., and Hal Mohr, A.S.C. The subjects respectively were "In Name Only" and "The Under-Pup."

Then give the film a shake and remove it quickly, dipping it immediately into clear water and shaking it around so that it gets a good rinse for fifteen or twenty seconds. Finally, squeegee the film gently between folds of a damp chamois or a viscose sponge, and hang it up to dry.

If, as sometimes happens, the scenes you want to separate by a pair of fades were shot consecutively on the same film, and you don't want to cut and resplice them, simply loop the film carefully, with the weight hooked in the loop (bearing on the celluloid surface, rather than on the emulsion) and make both fades at once as though you were making a single fade.

Wipe Often Needed

For more closely related ideas a wipe is often needed. Of course a true wipe must either be made in the camera with a mechanically interlocked wiping device, or in an optical printer.

But an acceptable wipe, in which the scene wipes to black, and then to the next scene, can be made with fotofade and waterproof scotch tape.

Make Both Wipes at Once

If you are good at splicing, you can make each half of the wipe separately; if not, splice your two scenes together, and make both wipes at once.

In making these chemical wipes, you simply place the scotch tape diagonally across the film (emulsion side), covering the areas that you want clear and leaving exposed the area you want opaqued for the wipe.

Be sure, though, that the tape is pressed down firmly on the film, so none of the solution can creep in under the tape and make your wipe ragged-looking.

Then, after wetting the film well, you simply immerse the portion to be "wiped" in the fotofade for at least two minutes. This is long enough to dye the uncovered part of the film a good, opaque black. Then rinse and dry it as you would a fade, being sure to rinse thoroughly to remove all surplus solution before you remove the tape.

By this time, you have tightened the cutting of your picture, put in all necessary added scenes and inserts—at least all that you can possibly make—and bridged the transitions with fades, wipes or inserts.

Unless you have gone very wrong indeed in your filming, the picture will hang together better and move much more smoothly than it did when you first screened it.

Now all that remains is to replace your temporary titles with permanent ones—and you will find your vacation film very efficiently salvaged, and in shape to make a really good impression on your audiences—friendly or otherwise.

FASTER FILM AND BETTER EQUIPMENT FOR 8MM.

By WILLIAM STULL, A.S.C.

THE big news of recent months has been the introduction of improved equipment and films for 8mm. moviemaking. For years 8mm. filmers have clamored for a wide-angle lens and for faster monochrome films.

Now Bell & Howell has given them the lens and both Agfa and Eastman have provided faster films. The net result is a marked increase in the scope and flexibility of 8mm. home camera-work.

Anyone who has tried to film interiors in the average home with an 8mm. camera realizes the value of Bell & Howell's new Hyper Cinor wide-angle lens. The 12½mm. lenses with which 8mm. cameras are normally equipped have a most inconveniently narrow angle of view.

In theory, they should cover the same angle as a one-inch (25mm.) lens on a 16mm. camera—that is, a horizontal angle of 21.2 degrees; but in practice, they appear to have even a somewhat narrower angle, which is confirmed by the figures given in Jackson Rose's Handbook, which indicate a horizontal angle of 19.7 degrees.

The Hyper Cinor, which correctly speaking is not a lens at all, but a highly corrected supplementary lens which may be fitted to the standard T. T. & H. 12½mm. f.2.5 objective of Bell & Howell eights, gives slightly more than double the normal angular coverage, widening the view to 42 degrees.

This, incidentally, is considerably wider than the 36.6 degree angle covered by the 15mm. wide-angle lens on 16mm.

film. The equivalent focal length of the Hyper Cinor is approximately 6mm.

Wide Angle Lens

Tests made with the Hyper Cinor show it to be an excellent objective. Definition and focus remain clear-cut to the edges of the frame. It gives very satisfactory results in color as well as monochrome. The construction of the lens is such that while the standard lens to which it is attached is of the fixed-focus type, the Hyper Cinor not only widens the angle, but converts it into a focusing lens. The calibrations on the Hyper Cinor permit focusing down to 2½ feet.

A certain amount of distortion of perspective is probably inescapable with any extreme wide-angle lens, and might certainly be expected in a wide-angle supplementary lens.

The new Hyper Cinor, however, appears remarkably free from such faults. In the tests made of it for The American Cinematographer, little if any such distortion was to be seen.

Since the lens is of somewhat complicated optical construction, with almost as many elements as would be expected in a normal objective, there appears to be some slight loss in light transmission. This does not appear to exceed half a stop, and may be considered negligible except in genuinely low-key lightings.

The diaphragm calibrations of the basic lens to which the Hyper Cinor is fitted may be used and considered accurate.

Specially matched viewfinder lenses for use with this wide-angle objective are being supplied. It may be mentioned, incidentally, that since the Hyper Cinor is made by the well-known French

optical firm of Som-Berthiot, in Paris, the present international situation may possibly retard deliveries of the new lens, though Bell & Howell is understood to have an ample supply available.

Agfa's Twin-8 Hypan

The first of the fast 8mm. films to be announced was Agfa's Twin-eight Hypan. This has a Weston daylight speed-rating of 24, and 16 to Mazda light. From the results of our tests, these ratings—especially the daylight rating—appear to be conservative.

Twin-eight Hypan is a fully panchromatic film, with excellent fine-grain qualities. While weather conditions at the time of our tests did not permit making exhaustive tests of the film with filters, it appears to behave excellently with all normal filtering. The gradational characteristics of the film are excellent, and it has the snap and brilliance necessary for 8mm. projection.

Eastman's Super-X

Eastman's Cine-Kodak 8 Super-X Pan offers similar speed—Weston 24 to daylight, 16 to Mazda. Like the Agfa product, these ratings seem conservative, especially as regards daylight sensitivity.

Super-X 8 is listed by Eastman as having "group C" sensitivity. In other words, its color-sensitivity is similar to that of the familiar Cine-Kodak 8 (regular) Pan. Accordingly, all filtering and filter-factors that have been useful with the regular pan can be applied, unchanged, to the new, faster film.

The grain size of the new film is remarkably fine—very closely comparable to that of its slower predecessor. The contrast characteristic appears to be slightly softer than that of the former film; it is definitely pleasing.

Using Fast Film

In general, it may be suggested that in using either of these films, the amateur will do well to follow the example of his professional fellow who, in using the new super-fast 35mm. emulsions, learned to handle his highlight illumination with increased caution. There seems a slight tendency toward "burning up" highlights if such care is not taken, and it will be well to keep highlight illumination on the soft side until familiar with the new film.

And what does this increased speed mean, in practical terms? It may mean either one of two things: the ability to use less light, or to stop down for increased definition.

This is of course especially notable when working under artificial light. Eight millimeter has always been at a disadvantage in this respect as compared to the far faster films available for 16mm. use. While the new films do not entirely overcome this, they certainly improve the situation.

To cite a concrete example, where a user of the old film would find it necessary to open his lens to f.2.5, the

(Continued on Page 473)

Applying Common-Sense to Shooting Stills in Kodachrome

By HARRY COTTRELL

*Head of Still Department
Paramount Productions Inc.*

MAKING color stills is no longer an assignment for the specialist. Since the introduction of professional Kodachrome cut film we have proved that any real capable studio still photographer can make consistently good color stills if he will only remember the few, basic limitations of the process.

This, of course, parallels the experience in Technicolor cinematography, which has seen its greatest advances since the studios have been placing their monochrome-trained cinematographers in command.

In my own department at the Paramount Studio we turn out an average of sixty Kodachromes a week. The percentage of successes is very high—yet we have no “color specialists”: at least six men (seven, including myself) handle our color shots in addition to their regular black-and-white work.

We have found it simply a matter of applying common-sense to the task and keeping in mind the inherent limitations of color.

The first of these is restricted latitude. It is inherent in every color process yet divided.

Latitude: 20:1.

In monochrome we are accustomed to a film that has a very wide latitude, somewhere in the neighborhood of 128 to 1. That is, your brightest highlight can be 128 times as bright as your heaviest shadow, and still keep within the normal, safe reproductive range of film and printing.

In Kodachrome this latitude is greatly reduced. We’ve found it is more on the order of 20 to 1. That is, the brightest highlight should be no more than 20 times as bright as the heaviest shadow. Such highlights as crosslights and backlights must especially be watched: if they are allowed to become too intense, they’ll give a “washed-out” effect in the picture.

And when a color picture is “washed-out” not only is the color in that area burned to a glaring white, but definition is destroyed, as well.

The second vital thing to keep in mind is the fact that when you are making natural-color photographs, not only the actual color of your subject is important, but also the color of the light that illuminates it. Any color film or process is balanced to give normal results with light of some definite color.

For instance, the regular or “daylight” Kodachrome, in both the professional cut film and the amateur minicam and home movie sizes, is balanced to normal daylight, and light of any other color will give an off-normal picture.

The Type A Kodachrome made for miniature camera and home movie use is balanced to the light of the Photoflood and “CP” lamps, which burn at a color temperature of from 3380 to 3600 degrees Kelvin. The Type B professional Kodachrome gives its best results with high-efficiency Mazda globes, at a color temperature close to 3200 Kelvin. The average Mazda found on

the set burns, when new, at around 3100 K., and grows progressively redder as it ages.

Color Corrected Lenses

Although the professional Kodachrome cut film will fit in any modern still camera’s holders, it is important to expose it through lenses that are fully color corrected. This is particularly important in motion picture studio still work, since so many of the lenses and cameras now in use date back to the old days of orthochromatic film.

The equipment we had may be considered average; our cameras were equipped with Goerz and Cooke lenses which, in the ortho-film days, had been the best obtainable. But when panchromatic film—and especially the highly sensitive types now available—came in, we found they were not corrected even for pan.

To our surprise we found that even in monochrome they evidenced peculiarities never suspected in the old days. At full aperture their definition was excellent, but when they reached f.1, definition began to fall off.

This continued until they were stopped down to about f.22, when they sharpened up again. Obviously, such lenses would be still worse for natural color photography.

Yet we found it almost impossible to obtain modern, fully color corrected lenses in the sizes required for our still cameras. Finally, after more than a year’s effort, we obtained several Bausch & Lomb Protars, which had been especially corrected for color. Though these lenses are relatively slow (their maximum aperture is f.5.6) they have proved excellent for color.

Our color still work divides itself into three broad groups. First there are color portraits made in the gallery. Second, color portraits and publicity shots made outdoors. Third, production stills made on the set.

Gallery Portraits

Because every factor in the portrait gallery is completely under control, gallery portraits are the most consistently perfect. The all-important matter of lighting can of course be controlled to conform precisely to the requirements of our color stills.

For this, we use the high efficiency bulbs, and check their color temperature carefully with a special color temperature meter made by General Electric. Within reasonable limits, we can correct discrepancies in color temperature by using corrective color filters on the offending lamps.

This is important, for if the lamps drop below the correct color temperature the picture will take on an unpleasantly reddish cast. If, on the other hand, the color temperature is too high, the light becomes bluish. And it is most disturbing to see bluish glints of backlight or crosslight in the hair of a pretty blonde.

Contrast is something that can be



A group of production stills from Paramount's Technicolored "Typhoon": all of these have been duplicated in Kodachrome. (1) An excellent color subject, though face modeling is a trifle strong for good Kodachroming. (2) An ideal exterior color shot; color-contrasts between greens of foliage and water, with coloration of flowers and faces make a striking picture. (3) The contrast range between the shadowed foreground and brightly-lit distance make this a difficult color subject; it exceeds the limited exposure latitude of Kodachrome. (4) An almost ideal lighting for a



Kodachrome production still. Color is more graphic here than monochrome, as it accentuates the dramatically important fact that the earring is a rare black pearl. (5) Another excellent exterior color subject. (6) Exterior Kodachrome portraits can be effective—but watch the color and strength of the back-lighting on hair! (7) In this production still, representing the interior of a submarine, the background is a neutral, battle-ship gray, and the stronger coloring of the figures makes them stand out even more effectively than in monochrome. Photos by Jack Koffman.

very accurately controlled in gallery portraits. We have found we get the best results when the contrast is held well within the 1:20 latitude of the film. In fact, it is a very good idea to keep your lighting so balanced that the extremes of highlight and shadow fall, if separate readings are taken with a standard Weston meter, between the "A" ($\frac{1}{2}$ normal exposure) and the "C" (twice normal exposure) points on the calculator dial.

In general, we try to keep our overall light-level keyed to a point such that when we take an overall reading with a Weston meter we get a light value of 20.

This does not by any means imply that the lighting must be flat and characterless. It does mean that the lighting should have very much less contrast than we're accustomed to using in black-and-white. And above all, the lighting should be fundamentally soft in quality, for harsh light beams tend to washed-out highlights.

Exteriors

In making Kodachrome exteriors we usually have to make the best of what nature gives us. Here again softer lightings are preferable, and wherever possible the use of reflectors—the familiar silver ones—is well worth while. Generally we give an exposure one-half the meter's reading; this can be done very easily by simply taking your reading with the "A" ($\frac{1}{2}$ normal) position on the calculator rather than the "B" or normal arrow.

Exterior Kodachromes are very effective if your subject is in the shade. However, if there is a large expanse of strongly sunlit background, you're likely to run into trouble, for the background will tend to overexposure and a consequent washed-out appearance. On the other hand, a sunlit figure in front of a heavily-shadowed background can be extremely effective.

It is a strange thing, but we have noticed in several instances where exterior Kodachromes have involved carrying focus on a considerable area between subject and extreme distance, that even in 8 by 10's our color seems to give an effect of greater focal depth than does black-and-white, even when made with the same camera and lenses. Properly photographed color also tends to give greater roundness and modeling, even though lit more softly.

Production Stills

To date, we have found it wisest to confine our making of Kodachrome production stills largely to Technicolor productions. This is due to several causes.

In the first place, the lamps used on monochrome sets are not balanced for color at all; some will be new and bright, and some old and dim, while still others, in baby spots and practicals, may be the far bluer photoflood globes.

The result is badly mixed coloration. On Technicolor sets, on the other hand,

all the lighting is balanced to daylight, whether arcs or Mazdas are used. Therefore we can go on to a Technicolor set with regular Daylight Kodachrome and shoot without trouble.

Secondly, there is the question of make-up. On Technicolor sets, color make-ups are of course used. These Kodachrome very well. But on monochrome sets, ordinary Panchromatic make-up is generally used.

And we've so far found no way of making a Kodachrome or other color shot of a Panchromatic make-up look

New Books

Make Your Own Movies. By Arthur L. Gale and King Pessels. Illustrated. Coward-McCann, Inc., New York. 230 pp. 1939. \$3.50.

"Make Your Own Movies" lives up to its title. It has a sub-title, too, by the way, which stipulates "For fun and profit." And it is herein told how to make money with your camera as well as how to enjoy it—or both.

"Are you just a beginner as an amateur moviemaker?" inquiry is made in a blurb that is printed on the cover. And the blurb goes right on: "This book will start you off on the right foot. You are an old hand with the movie camera? Well, then, this book will answer that ever-recurring question, 'What do I do next?'"

"Here are ideas for family movies, for vacation reels, for the sports enthusiast, for the travel addict, for the nature lover, for the hopeful who want to make money, for the man who likes to use his hobby to promote his business or profession, for the high school student who is thinking of a career, for the social minded citizen who wants to be a force in the community."

The book points out that the advent of the new ultra-fast, supersensitive film has transformed indoor movie-making. You can turn your home into a Hollywood set with no extra lighting equipment. The book tells you how to do it, and offers brand-new picture ideas for filming inside your own home. It tells you how to place lights in the fixtures of your own living room and get professional looking results. Gone are the days when the floodlights blow the fuses.

Perhaps the best cross-section one may obtain of a given book is to show the titles of the various chapters. Well, here they are: *Movies of the Family*, *Ideas from Real Life*, *Making Movies Clear and Sharp*, *Making the Most of Sky*, *Outdoors with Our Friends*, *Holidays on Sand and Snow*, *Bring Your Travels Home*, *Get Close to Life*, *Games, Events and Parades*, *It's Easy to Film Indoors*, *Views and Viewpoints*, *Title Hunting*, *You'll Splice and Edit, Too*; *Showing Your Movies*, *Movies Go to School*, *Influence in the Community*, *Filming Your Job*, *How Movies Help Business*, *A Hobby That Pays Its Way*, *The Road Ahead* and *Seven Simple Rules*.

like anything else than a panchromatic make-up. In the gallery, we can alter make-up, using street make-up, or at the very least ordinary make-up plus a special, dark-brownish-red lip-rouge that is moderately satisfactory.

In making production stills in color, the stillman is handicapped by the slow speed of his film and lenses. Neither are as fast as the modern Technicolor emulsions, and of course both are far behind the products used on monochrome sets.

This necessitates the use of slow exposures—sometimes a second or more. It takes a really camera-wise actor to "hold" a pose that long. Many fail to do so; and while you can't altogether blame them, it can't be denied that in making Kodachrome production stills "moves" are an expensive hazard.

Making production stills, the stillman is always at the mercy of the cinematographer. Even in black-and-white the lightings that suit the cine camera do not always suit the still camera. In color, even when the movie camera is using Technicolor, this problem is heightened.

Some cinematographers—even in Technicolor—find it necessary to go to low-key lightings which on the screen are extremely effective, but which are practically useless for a color still. Our best shots have been made on sets where the cinematographer was using a normal, moderately high key of lighting for his Technicolor.

Future Needs and Possibilities

In general, it may be said that Kodachrome offers the most practical method yet available of making a motion picture studio's color stills. Some improvements, however, would be cordially welcomed. For many practical reasons, we would certainly be glad to see the sensitivity of the process increased.

Another welcome step would be elimination of the need for sending our film to Rochester for processing. And sooner or later a make-up must be developed which will be equally satisfactory for both monochrome and color photography.

But the advantages of the process far outweigh these minor drawbacks. This can be especially appreciated when we look back only a few months, to the time when it seemed no two editors agreed on what they wanted in color pictures.

Some demanded a set of one-shot separation negatives; others asked for color prints on paper; still others preferred Dufaycolor or 35mm. minicam Kodachrome transparencies: the only agreement was that an increasing number of editors wanted color-pictures of the stars. Today, still more editors want color—but fortunately nearly all agree that Kodachrome transparencies, intelligently photographed, give them what they want.

And that is what we still photographers are trying to do.

New England Inquires: Why Not Authentic Locations?

By Stanley and Maryjane Bean

16mm. Amateurs of Amesbury, Mass.



Stanley and Maryjane Bean in a scene from "Romance of the Merrimac Valley," by Mr. and Mrs. Bean, in one of their "Distinctive Cinemas."

IN 1925 a group of High School chums were asked to try amateur movies for a week-end venture during the summer vacation. The film to be shot was Western to the core, titled "Rewards of Faith." Where the deuce could you get outdoor settings for cow-country in Massachusetts?

Believe it or anyways, with the use of our old Vicam 35mm. camera, using only 25 feet of raw stock at a loading, we did get a feasible locale without painted backgrounds.

The story wasn't much. But real horses, blank cartridges, a few som-breros, and a genuine hand-to-hand fight kept the audience in stitches, especially when the cameraman forgot to keep

the hand-cranked camera turning smoothly.

But from 700 feet of a crude, one-hoss opera grew an idea that New England had a variety of settings not too different from those of the California film capitol.

Nineteen hundred twenty-six found the camera man on a visit to the studios of Hollywood and the outdoor locations in the hills.

Hollywood: Ideas

Back home again, this time with a 16mm. Cine Kodak, a tripod (good lens—nearly forgot that) and some ideas, most of our little company gathered again and sketched an authentic history of our Merrimac Valley, which was finished in two reels—costumes and all.

This time we were in our own element, to be sure. Courage took effect in us all, and next came the most elaborate attempt in our careers. "The King of Allah's Garden" (described in an earlier issue of The Cinematographer), a story of Africa's game country—veldt, desert and jungle, a cast of fourteen and some work in natural color.

The film was shown to more than 10,000 persons in our vicinity, and part of it found its way to Duncan Little's 1936 Party.

"Amid Desert Sands." A scene on New England's rock-bound coast (not)!



From all sides we were sure of one thing, New England had possibilities. The question was: Where were those scenes taken?

We have never used cuttings from any travel films nor have we been ingenious enough to create the correct artificial backgrounds. We know that there are many flaws in our stories and acting, but we do feel certain that the settings are pretty nearly right and whatever corrections necessary could be made by any company at much less expense than the creating of artificial ones on the lot.

Location: Box Office

We realize that New England's sunshine is not as regular as California's, but most stories can be worked with regard to the weather if planned properly. The seasons offer the atmosphere necessary to many stories.

One point more in favor of shooting pictures in New England is the audience appeal. Box office receipts can be added to greatly when any particular section of our country is favored with the working of a company. Folks get many good impressions from seeing their stars at work in their profession.

Too often today movie names turn coldly on the hands that feed them. If they want the public to like them they must like their public, even when it hurts.

From our efforts at making the home



A Massachusetts home. Another, a possible Twelve Oaks in "Gone with the Wind." ". . . The white house reared its perfect symmetry before her—tall of columns, wide of verandas, flat of roof—it had a stately beauty." A second candidate for Twelve Oaks from a New England location. At the bottom is a suggested Danish Village, a Scarborough (Me.) auto camp.

of the Pilgrim Fathers appeal to them in a new dress and in a setting which they have been too blind to see, we create a keen interest.

Now comes our work of collecting actual scenes for future productions which at least lend a reality to places far afield to depict stories around the world.

Lady of the Lake

A lake in mountain surroundings becomes at the right camera angle Scotland's Lake Katrine replete with Ellen's Isle.

With a few shrubs, one of Maine's attractive auto courts, The Danish Village at Scarborough, could for all the world serve in all reality Miss Garbo's "haven of refuge" in a story of intrigue in today's muddled Europe.

In the woodlands of any coast town are jungle settings enough to make Frank Buck homesick. Unusual rock-walled gorges fit for a Canyon scene in a Zane Gray yarn.

Now we turn our eyes south with the reading of "Gone with the Wind," and the anxious waiting for the film. Just this past week we scouted for a shot or two for the county plantations, and with a few apologies have a fair Twelve Oaks or Tara.

We like to believe that whatever studio comes to New England in October with a Technicolor camera in its luggage and a plausible homespun story will go back to Hollywood with an achievement in natural beauty unrivaled anywhere in the U.S.A. and if the entire cast and company doesn't regret leaving us here amid our quaint gorgeous-hued countryside and our tables of harvest plenty then we will be meek and never venture forth on foot or with pen.

Raygram Tripod Unit No. 60

The Raygram Cine Tripod, Unit No. 60, is announced for distribution by Raygram Corporation, 425 Fourth avenue, New York.

This unit, consisting of a two-section chromium plated steel tripod and the new Raygram swing tilt pan head, will accommodate any camera from the lightest to the heaviest. Measurement when folded, 32 inches; extends to 5 feet when open.

The swing tilt pan head tilts forward, backward, and sideways and adds additional 6 inches to height. List price of the complete unit is \$11.50.



"There's Gold..."

THERE'S gold in the autumn hills—gold and purple, red, yellow, blue and green, all the bold, all the subtle coloring of the changing season.

With Kodachrome full-color film in your camera, you are the master of this colorful spectacle. And your mastery is so easily achieved that your attention stays where it belongs—on the pictorial possibilities of the scenes before your camera.

Kodachrome film is available for both 8 mm. and 16 mm. home movie cameras. There are two types, "regular" for daylight scenes and Type A for movies made by Photo-flood light; both are the same price, \$3.75 per 25-ft. roll of 8 mm. film, and \$9 per 100-ft. roll of 16 mm. film. Fifty-foot rolls and 50-foot magazines of the 16 mm. film are \$4.75 and \$5, respectively.

Ask your dealer for a Kodachrome Exposure Guide (for Daylight); it's a small, neat, easy-to-read, and explicit guide that belongs in every movie maker's kit. Price, 10 cents.



EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

QUALITY FOR THE AMATEUR CINESMITH

By JAMES A. SHERLOCK

THIS article is written for the amateur who is not satisfied with the quality obtained in his pictures by the easy snap-happy method.

The latitude of sub-standard reversal film is more limited than some film manufacturers claim. Tests were made with several well known films returned to the manufacturer's agents for standard processing and the quality of the pictures suffered when a variation from the correct exposure of more than half a stop was made. This does not mean that exact exposure must be given to get a picture, but if that picture is to be of the best quality the exposure given must be almost correct.

A very instructive article appeared in January (1939) issue of American Cinematographer by Daniel B. Clark, A.S.C. titled "Securing Uniform Results with Meters on Interiors."

This supervisor of photography for Twentieth Century-Fox carried out optical bench tests with various exposure meters and writes as follows: "Throughout these tests the General Electric Meter proved itself the most consistent available and the most nearly free from individual day to day fluctuations. It has, therefore, become our standard."

Has Two Scales

A statement such as this from one of the world's leading cinematographers should convince the amateur that he needs an electric exposure meter. The makers of the General Electric exposure meter claim that it will measure light to within half a stop.

Tests were made under both artificial and daylight with this meter. It measured reflected light to within $\frac{1}{8}$ of a stop. It is a double range instrument with two scales, one 10 times as sensitive as the other. The latter is used for measuring light of low intensity.

The reflected light from any subject is controlled by three factors:—

1. The direction of the source of light.
2. The direction in which the eye or camera is placed.
3. The tone (or hue) and texture of the subject.

Tone and texture are closely allied for the reason that although the color of two objects may be identical, one of them might have a smooth highly reflective surface and the other a matt surface which reflects as much light but scatters it more.

This fact appears in nature more often than one would expect, but does not fool a good electric exposure meter. It is more liable to upset calculations if an exposure chart is used.

If an electric exposure meter is pointed at the horizon the luminosity will be increased and subjects photographed with this light reading will appear on the film in silhouettes.

Getting the Measure

If the main point of interest is the whole landscape, the meter should be tilted downward to 30° below the horizon but if detail is required in any particular object the meter should be taken to that spot and only the reflected light from the object should be measured.

If this is not possible, a nearby object of similar colour and receiving the same amount of incident light should be measured.

The photo electric cell is a scientific method for accurately measuring light variation and is essential if quality is required by the amateur cinematographer.

Different kinds of emulsions are not equally sensitive to light. 8 mm. and 16 mm. Panchromatic film has almost superseded orthochromatic stock and is

sensitive (more or less) to the visible spectrum. Supersensitive Panchromatic is more sensitive to red than ordinary Panchromatic and is used to advantage in artificial light, which is rich in red but deficient in blue.

Summer Exposure

Some amateurs prefer to use Super Pan film under all conditions. It has a soft effect, shows detail in shadows but has less contrast between adjoining tones than ordinary pan film, which gives a snappy picture with tones well defined, but care must be taken if it is exposed in summer when the sun is almost overhead.

Under this condition reflectors are used to lighten shadows that otherwise would appear very black and would lack detail. When shooting closeups in daylight with either color or black and white film, reflectors should be used.

No filter is required for Kodachrome when used on ordinary scenes in sunlight, but for distant landscapes, sea shore, snow scenes and aerial photography a Kodachrome haze filter is recommended. Kodachrome records ultra violet light as violet but a Kodachrome haze filter will correct this.

It is not necessary to shoot color with the sun at the back of the camera, but if the colour in shaded areas is to appear natural white reflectors should be used. It is surprising that the amateur neglects the use of these accessories. Stills taken of most outdoor sets for professional pictures reveal many reflectors. They are easy to make and the cost is small.

Making a Reflector

Cardboard, fibre board, celotex and three ply are suitable. A convenient size is 4 feet by 3 feet. If that is too large to carry, they can be cut in two and hinged on the inside to protect the reflecting surface.

The reflector should be mounted on a light framework, the corners braced and the surface sprayed with two or three coats of flat white paint which will reflect a soft white light suitable for color or black and white film.

Other types of surfaces can be made by using white enamel or aluminum paint, but these reflect a harsher light.

With a very little practice the eye will soon become accustomed to see when and where reflectors are required. They should not be used to evenly balance each side of an object, but to brighten the shadows in which detail is desired. The moviemaker must remember he is painting with light and that correctly balanced light and shade give the picture depth.

The majority of objects photographed are colored, but unfortunately pan or super pan film do not register colors in exactly the same tones as the human eye sees them. This is particularly noticeable in the blue region of the spectrum.

Colored filters may be used in front

of the lens to compensate for this deficiency. They are also used in sunlight to create pictorial effects and to accentuate shadows or particular colors.

If the sky is overcast, filters lose their usefulness. It must be remembered that by placing a filter in front of a lens the diaphragm must be opened to compensate for the amount of light absorbed by the filter. If you use a filter which darkens one part of the spectrum it will at the same time lighten another. If the correct filter is not chosen for a scene the sky may appear too dark, grass or trees appear white, and yellow or red flowers may have the same tone as white flowers.

The chart accompanying this article shows various coloured strips of paper photographed with different filters. A study of this shows that a coloured filter lightens its own coloured strip but darkens others, and unless care is taken when choosing a filter to use on any scene, it may appear overfiltered and unreal.

When Buying Filters

There are many types of filters on the market, but the serious amateur cinematographer would be well advised to standardise the size of his filters and make or buy a lenshood which will hold a 2 by 2 inch filter. For those people who are not so serious, lens manufacturers produced a limited choice of filters which are made to fit each lens.

A 2 by 2 inch filter is large enough to cover the front of any cine lens regardless of its focal length. Another advantage is that these filters can be used with a still camera to test their reaction to a color chart. This test is a simple, cheap and effective method to learn the possibilities of a new filter or the characteristics of an emulsion, but be sure the test is made with an emulsion similar to the one you intend using in the movie camera.

Most filters consist of a piece of gelatin film cemented between two pieces of optical glass; they should be treated with as much care as that accorded to lenses and kept in their case when not in use.

CHART SHOWING KODAK AND WRATTEN FILTER FACTORS FOR VARIOUS KODAK CINE FILMS

	Type of Film
	Cine Kodak Safety
	Cine Kodak 8
	S. S. Panchromatic
	Super XX
	Super X
K 1	X 1½
K 2	X 2
X 1	X 5
G	X 2½
23 A.	X 4
Aero 1	X 1½
Aero 2	X 2
3 N 5	X 4
5 N 5	X 5

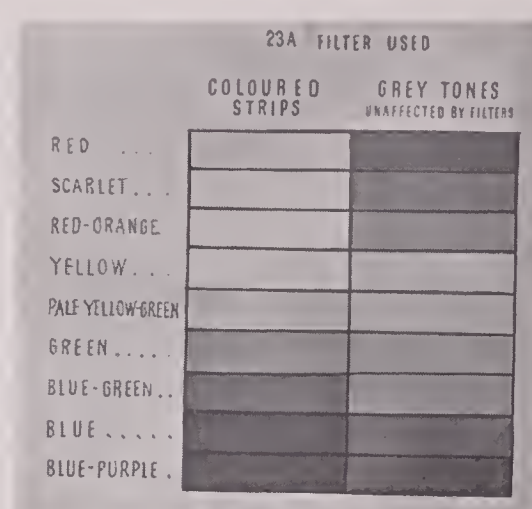
FILTER AND CAMERA SPEED COMPENSATION CHART

Exposure at Camera Speed of 16 Frames Per Second		Filter Factors		1½X	2X	3X	4X	8X
		COMPENSATION FOR SPEEDS						
		8	12	24	32	48	64	128
		F.P.S.	F.P.S.	F.P.S.	F.P.S.	F.P.S.	F.P.S.	F.P.S.
Normal Exposure	F 1.5	2.1	1.8	..	..	..	..	..
Normal Exposure	F 2	2.8	2.4	1.7	1.4	..	..	..
Normal Exposure	F 2.8	4	3.4	2.4	2	1.6	1.4	..
Normal Exposure	F 4	5.6	4.9	3.4	2.8	2.3	2	1.4
Normal Exposure	F 4.5	6.3	5.5	4	3.2	2.6	2.2	1.6
Normal Exposure	F 5.5	7.7	6.7	4.7	3.9	3.1	2.7	1.9
Normal Exposure	F 8	11	9.8	6.9	5.7	4.6	4	2.8
Normal Exposure	F 11	16	13	9.5	7.8	6.3	5.5	3.9
Normal Exposure	F 16	22	19	14	11	9.3	8	5.6
Normal Exposure	F 22	32	27	19	16	13	11	7.8
Normal Exposure	F 32	..	..	27	22	18	16	11

NOTE: Many stops indicated by above chart are not marked on the lens. Their positions can be estimated by the eye with sufficient accuracy.



G. FILTER. An orange filter which produces over correction, absorbs the blue light which is prevalent in shadows on a clear day, thereby making them appear darker. It will remove haze and atmosphere from a scene, but should not be used on a sea-scape unless it is required to make the water appear almost black.



23 A. Is a red filter used to accentuate clouds or white buildings against a blue sky. It gives a strong contrast but it is not advisable to use so deep a filter in average pictorial work as greens will appear almost black and shadows are greatly accentuated. This should be used only as a special effect filter.



K. 1. Will slightly reduce the intensity of the sky, thus slightly accentuating clouds.



3 N. 5. This filter is a combination of an Aero 1 and a neutral density filter. It does not give over correction but is capable of producing highest pictorial qualities on either pan or super pan film. This filter can be thoroughly recommended to the amateur.

(Continued on Page 471)

Note: A cine film chart will appear later showing filters suggested by the manufacturers of other amateur films.

ST. PAUL CLUB TESTS CINE-KODAK SUPER-X

NEW! Three times as fast as regular "Pan." So read the ad in *The American Cinematographer*, so the St. Paul Amateur Movie Makers Club set out to satisfy its curiosity about the new Eastman Super-X film in the double-eight width.

With considerable mystery to whet the members' film appetite, the first meeting of the fall season found about 45 persons crowded around the entrance of the clubrooms in the Commodore Hotel, wondering what was to happen.

Cameramen Victor Engquist and Russell Chapple loaded their Keystone 1.9 and Eastman 2.7 cameras with the new fast film, set up a few photofloods, squinted through the finders, and waited, tripod-conscious, for the inflow of club members.

So the pictures of the club members wouldn't look like old fashioned daguerreotypes, Ken Hezzelwood, club president, asked each one to help move furniture from a side room into the main club room, and man, woman, or child, each one suddenly found himself toting projectors, screens, chairs, rugs, tables and tablecloths through a narrow passageway which opened suddenly into the glare of the photofloods.

Here John Stees, program chairman, gave additional instructions to remove whatever formality still remained.

The first ones through saw the whole show, but everyone enjoyed their roles as actors instead of cameramen. Furthermore, very few missed the second meeting when the films were shown.

A stenographer caught some of the comments. "Why can't we go in? Why do we have to wait here?"

"Oh, I say, why all the lights—gosh, the people are laughing. Hello, Stees,—

oh, you want us to stop. Say, who is taking pictures—gosh, those lights are hot. Well, you say we can take the rug over and lay it on the floor.

"Why couldn't we carry chairs, that's lots easier. Oh well, look at that bunch carrying an overstuffed chair. Wow, that is a job, and three girls, too."

"Oh, now we start the meeting."

Wondering what it was all about, all of the members were informed that the film was taken without the use of any more lighting than the average amateur owns, in order to see how far away the film would pick up underexposed territory, without overexposing objects or persons close to the lights.

Surplus film was used up at a concert in the St. Paul auditorium, and in pictures of rapidly moving machinery such as saw, emery wheel, buffer, etc., to learn the effect which high speed motion would have.

At the second September meeting, the films were projected, and a hilarious audience approved the extempore acting of the club members. Carrying over into the third meeting, a small group will edit the film, form a continuity and title it, to demonstrate how ordinary miscellaneous pictures can be worked into a running story and the interest heightened.

During the two evenings, 8 and 16 mm. vacation pictures were screened, and an illustrated talk and discussion showed how club members made an animation for their school police documentary film, which involved more than 12,000 individual movements to show school children crossing through heavy traffic.

The club will have a contest this year, and Lacey Harmon has offered a plaque with a polished metal camera model

as a prize for the best film. As a committee to arrange details of the contest, Harmon will be assisted by Mrs. H. Olson and Harold Lains.

Philadelphia Cinema Club

Opening the season at the Hotel Adelphia, the Philadelphia Cinema Club's September meeting got underway with the showing by George Pittman of his film "Service With Safety," a black and white print for a kodachrome original, photographed by him for the Bell Telephone Company of Pennsylvania.

Running 1,050 feet of 16mm. size, the film depicts the wrong way and the right way to do work and do it safely. The film was accompanied by spoken comments of Mr. Pittman, for with the exception of the lead no titles were used. The film was offered for critical comment, and in order that comment be headed up Mr. Rasch asked Messrs. Brink, Bowersox, Hoot and Woodcock to check the film carefully and report in open discussion on their findings.

Space does not permit us to detail the full "question and answer" discussion, but suffice it to say, that for over an hour the comments were passed back and forth to the enjoyment of everyone. The comments indicated clearly that the members were all "on their toes," were able to spot errors in photography; errors in scenes; as well as expressing their views on scene lengths, duplications, speed, composition and editing (including a rather technical discussion around the subject of "cutting"). Particular mention and credit should be given Messrs. Hirst, Hoot and Pittman for their definitions and treatment of this subject.

At the request of the membership Mr. Hoot put on his film of "The New York World's Fair," running 1250 feet of 16 mm. kodachrome, with a running comment by himself on the scenes.

Again open discussion brought forth comments that members of the club were able to produce films ranking very high in quality, so as to approach professional results. This, however, should not deter the starting amateur from submitting the results of his efforts for review and comment.

The club "Film Leader" for 1939 was awarded to Messrs. Brady, Bowersox, Finger, Hirst, Hurth and Woodcock, for films exhibited in the 1939 season.

B. N. LEVENE,
Publications Committee.



Kodachrome leader strips for each member of the St. Paul Amateur Movie Club were made this summer by Lacey Harmon, L. C. Jefferson, and John Stees (left to right). The leaders were distributed at the second September meeting of the club.

INDIA'S FILM HISTORY PASSES IN REVIEW

By F. BERKO

INDIAN film production is just over twenty-five years old. There are different claims as to which was the first film produced in India, but it seems to have been either "Pundalik," produced by Nanabhai Chitre, or "Harishchandra," by D. G. Phalke. Both of them seem to have been produced in 1912, and both were shown under the most primitive conditions, without any publicity, to a very indiscriminate public. But while "Pundalik" is said to have been a complete failure, for "Harishchandra" an enormous success is claimed.

Be this as it may be—and it seems very difficult indeed to ascertain the truth about many things in the Indian film industry, formerly as well as nowadays—it is certain that Indian films developed comparatively slowly for the next twenty years. At the beginning these were mostly mythological and "stunt" pictures which were seen by low-class audiences only.

Later on their standard started to improve slowly, and the last of the "silent" box office hits was, incidentally, the first film to put Indian pictures on the world market. It was called "Light of Asia," and was produced in collaboration with Emelka Films of Munich, Germany.

Shot in India (from March, 1925, onward) by a German director and a German cameraman (both working for the last five years, for the same producer, at one of the leading Indian companies), and produced by Himansu Rai, who also starred in it, the film had its premiere in London, where it ran with considerable success. It is claimed 400 prints were distributed throughout the world.

Talkies

With the advent of the talkies, which not only involved more careful preparation because of greater financial investments but which, from the necessity of having to employ a more highly specialized technical staff, better actors, etc., attained a higher level of intelligence, the standard of Indian films improved more rapidly.

Films showing—though still in a very much fictionalized form—some aspects of

Indian life, so called "socials," were being produced, and served to attract the attention of a more serious public to the films as a medium of expression.

Incidentally, actresses, always difficult to acquire in India (even nowadays!), began to be recruited from higher strata of the complicated Indian social system, and in their turn again attracted a better public to the cinemas. As an added attraction to Indian audiences, well-known Indian singers and dancers could be brought before a very wide public.

The Present

Within the last five years, the quality of Indian films improved very rapidly, however, and it may be said that today the best films of the two-three leading film companies have in some respects reached the technical level of a good B-Class American picture.

Theoretically, it is perfectly well possible for many more Indian films to reach that level, and in some cases it is even surprising that it cannot be passed.

Because although a lot of work is done in India with very primitive and defunct equipment; in sheds which, with the best will in the world, cannot be called studios; and under—to Europeans and especially Americans—unimaginable conditions, there is also, on the other hand, the very latest technical equipment available and in some cases in use in this country.

The main reason for this lack of quality, apart from the language and distribution difficulties explained later, is that the public, the overwhelming majority of which is illiterate, is so indiscriminate and so easy to satisfy, that there is no urgent need to produce better films for it.

Consequently the producers, directors, writers, editors, technicians, musicians, setting-men, etc., can stay as unqualified for their jobs as, compared with their European and American confreres, a great number of them still are at the present.

The film industry, however, has come to be the eighth largest industry in the country. As no raw film is manufac-

tured in India yet, all of the stock used has to be imported, mainly from America and Germany.

As India produces, taking the average of the last five years, about 200 feature films of roughly 14,000 feet (final version!) each, annually, it is the second largest consumer of raw film in the world.

The import duties on raw and exposed film alone have grown from about \$65,000 to \$500,000 a year during the last fifteen years. It is estimated that the industry has invested about \$60,000,000. There are approximately 75 producing companies in India, with Bombay, Calcutta, Poona, Madras, and Kolhapur as their centers.

As an expenditure of about \$35,000 can be estimated for each of the \$200 feature films produced annually, one can count that about \$7,000,000 is spent annually on production. About 40,000 people derive their income directly from the industry.

Short Films

While feature films have considerably improved in quality, if not increased numerically, during the last years it must not be forgotten that one film today may cost anything from 100 to 10,000 times as much as it cost twenty or even ten years ago!

"Shorts" have not done either, so that while there were in 1937 e. g., 1181 foreign shorts, including newsreels, to 355 foreign feature films, the shorts being of a fairly good quality, on the whole, there were only 64 Indian shorts to 180 feature films, and these shorts were practically without exception of a very poor quality.

As short films, especially of the documentary type as produced in England by the former G. P. O. unit, Realist Films; the films for the Gas Light and Coke Company, etc., and in America the Government-produced films of Pare Lorentz, are of a very high value in every respect, it is natural to ask for the reason for the regrettable fact that India should lag behind so much.

The answer is that apart from the fact that they can hardly ever bring big money, and hence are an uninteresting proposition to most of the men backing film companies, it will easily be seen that there is not the slightest possibility of development along these lines in this country as long as the length of the feature films is not restricted by law.

With films running for 2½ hours and more, it is not possible to include proper newsreels or documentaries in a schedule of three shows a day in the time from 2 p.m. or even 3:30 p.m. onward.

B. Distribution

This, of course refers only to cinemas showing Indian films. The number of cinemas has greatly increased with the last few years, until there are now about 1000, in addition to about 500 traveling cinemas.

Out of the number of permanent houses, about 54 per cent show Indian

films only; about 27 per cent show both Indian and foreign films, while the remaining 19 per cent show foreign films only.

While there are only about twelve or fifteen distributors, the majority representing American, the rest English producers, who supply roughly the 465 cinemas showing foreign films, the state of affairs is much more complicated where Indian films and the ca. 250 distributors handling them are concerned.

The lines differ along which these men or firms distributing Indian films work. Some are sponsored by men with large incomes who back the production of certain films directly or indirectly. Usually, though, it may be said that the exploitation rights are either bought outright, by lump sums, or more frequently acquired on a percentage basis of about 12 to 15 per cent up to a fixed realization, and thence on a 50-50 basis.

But conditions are frequently such that the producers, in these cases, not only have to produce their films, but will also have to make sure of a run of at least six weeks at the first showing of their pictures, in order to secure a good distribution. For this reason many big producers have either their own first-run cinemas or the lease of cinemas for the first showing of their new films, and furthermore have to try whatever they can to attract good audiences to the cinemas and to get as good a publicity as possible.

This last factor, by the way, apart from some other reasons, contributes heavily to the situation that there is an absence of honest film criticism to be found in India; there are few newspapers or magazines which by various means such as being given advertisement space, etc., cannot be "influenced."

First Run Important

To continue: Supposing, then, that the picture runs for the required time, or more—and India is the country where films may run to anything up to one year—it is certain to be a success and good returns are assured. If it fails to draw, however, the producer will have to look out for a distributor, and will have to take the best offer he can get.

Hence, in order to avoid such risks, many producers try to obtain a contract with some distributor (based upon the latter's knowledge of previous successes of the producer, or upon confidence in his capacities, staff, stars, etc.), by which the distributor, contributing toward the production costs, obtains the exploitation rights on certain prearranged terms.

The distributors, in their turn, are, of course, again linked up with a certain chain of cinemas in their respective territories, so as to be able to enter into such contracts.

Arrangements of the kind just described which, by the way, are about the nearest approach to the English and American "block-booking" system, have certain obvious advantages as well as

drawbacks for the producers, as has the "free-booking" system explained further above.

If to the various difficulties with which both producers and distributors are confronted, the one of languages is added (India has about 222 vernaculars and,

IN AUSTRALIA'S CONTEST 22 FILMS ARE ENTERED

SOME cine camera manufacturers advise intending buyers to purchase a movie camera and express their personality. To the prospective buyer this suggestion may appear a little exaggerated, but its truth was vividly proved to members of the Australian Amateur Cine Society who viewed the prize winning and highly commended films in the first all Australian Sherlock Gold Cup Competition.

The cup and a photographic order for £10 was awarded to "Coast Town," a 16mm. monochromatic film produced by Mr. R. Lowe. It is a deliberate, slow moving film which has caught the true atmosphere of a simple Australian fishing town.

There was no attempt at glamourizing local people. They went about their daily tasks unmindful of the camera, but with that wholesome countenance to be seen only in people who live far away from that state we city dwellers know as modern life. Bob Lowes' friends could expect such a film from him, quiet, dignified and typically Australian.

The second prize was awarded to "To the Zoo," a Kodachrome film produced by L. Solomon, who expressed a colorful personality with sincere love for his family. They are shown enjoying a day at Taronga Park. This picture is typical of the producer, but suffers from the same fault as most kodachrome films in that it needs cutting, but might be re-edited into a first prize winner.

Three years ago Frank Brooks thought he was giving too much time to amateur theatricals, gave them up and bought a movie camera. The first picture he made, "What a Day," won him third prize and brings with it a whiff of the stage.

The story centers around a day spent on an Australian beach by about a dozen people. In the film is a Hero, Heroine, Villain (with black moustache) and a drunk.

The story flows smoothly to a happy ending and considering it was the producer's first film is a good effort, but mark you! the movie bug bit harder than its contemporary!

"Feathered Features," by Foster Stubbs, was placed fourth. It is a bird story of one of nature's gamest creatures, the butcher bird, which is shown attacking the camera man as he erects a remote control camera to film its nesting period. This film was taken by a methodi-

cal mechanical minded person with plenty of patience and care for detail. These are only four of the pictures which reflected the character of the person who made them. The films were publically screened in Sydney on July 24 last.

Twenty-two films were entered from various states of Australia and to use the words of one of the judges "Not one bad film among them."

The cup was presented to the Australian Amateur Cine Society for National Competition, with the stipulation that all films must be exposed in Australia. The reason behind this was that the donor was anxious to have a few typical Australian films sent overseas each year for International competition.

Special prizes were awarded to the South Australian Amateur Cine Society for its comedy "Cleaning Up," as well as to Mr. Alford of the Victorian Amateur Cine Society for his photoplay, "Lunch Time."

Lieut. Lewis, Signal Corps, Under Hollywood Training

Lieut. Harry J. Lewis of the Signal Corps of the United States Army, the seventh officer to be sent to Hollywood under the cooperative training program carried on between the War Department and the Research Council of the Academy of Motion Picture Arts and Sciences, arrived in Hollywood the latter part of September to begin his study of motion picture problems.

Lieut. Lewis is a graduate of the United States Military Academy at West Point, Class of 1935, and comes to Hollywood from Fort Monmouth, N. J., where he has just completed the course in the Army Signal School.

In addition to spending some six months in the studios, studying all phases of motion picture technique, the training course includes several weeks study of the various types of motion picture equipment, and the first two weeks of Lieut. Lewis' stay in Hollywood will be spent in the plants of the Eastman, Dupont and Agfa Film companies, studying the handling of the various types of raw stock film used in picture production, followed by a period of several weeks to be spent with the sound equipment companies, where he will learn the details of the ERPI and RCA sound recording systems.

GREATEST OF ALL

IN the fifty years since Eastman supplied the film for the world's first movies, there have been many great Kodak emulsions designed especially for the motion picture industry. . . . Greatest of all are Eastman Plus-X, Super-XX, and Background-X . . . today's ruling favorites in the studio and on location. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

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for all difficult shots

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for backgrounds and general exterior work

DENSITOMETRY AND ITS APPLICATION TO MOTION PICTURE LABORATORY PRACTICE

By EMERY HUSE and GORDON CHAMBERS

Motion Picture Film Department Eastman Kodak Company,
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In Three Articles—Article II

DENSITOMETERS are of two general types, visual and physical. The human eye is used with the visual instruments to compare the light passing through the material being measured against some standard by means of a photometric field. Provision is made for varying the amount of light in either one side or the other of the photometric field to restore the brightness balance after a density has been introduced into one field. The adjustment required to restore this balance is a measure of the density. Physical densitometers employ some light sensitive material to convert the light to electrical energy which can be measured in turn by some form of meter. Densitometers of each of these types are in use in motion picture laboratories at present, the visual ones being more common. Of the latter, only two kinds are available on the American market, so far as the authors are aware, one of the polarization type and the other of the balancing wedge type.

The physical densitometers also divide themselves into two types. In one kind the density is determined by the deflection of a meter measuring the sensitive cell output. In the other the introduction of the density to be measured is offset either electrically or optically to restore the balance. This is representative of the null type.

At the present time the commercial availability of the physical instruments is limited, many of those in use in Hollywood having been constructed by the users. Each of the various kinds of densitometers will be discussed separately and typical examples described.

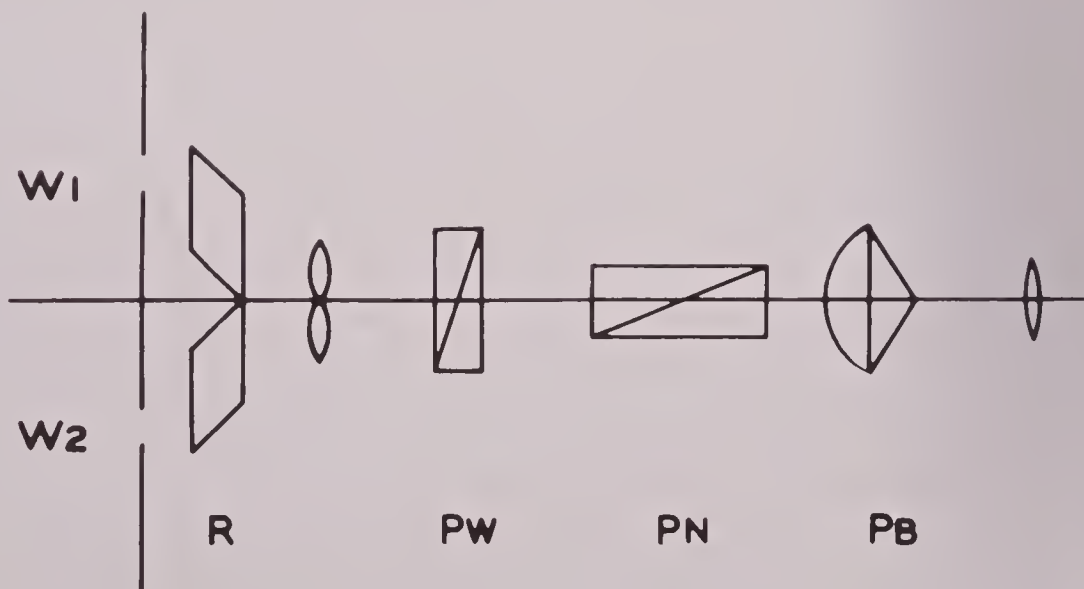
B. Visual Densitometers

1. The Polarization Photometer.

In Figure 2 is shown in schematic form the optical system of a typical polarization photometer. The photometer head itself is usually mounted over an evenly illuminated pot opal glass so that equal amounts of light enter the two windows or openings in the nose-piece, W1 and W2. After passing through the rhombs, R, whose purpose is to increase the separation of the two measuring fields, the beams from the two openings are polarized in mutually perpendicular planes by the Wollaston prism, PW. These two plane polarized beams illuminate the two halves of the biprism, PB, after passing through the Nicol prism, PN. If the beams enter-

ing the photometer are unpolarized and of equal brightness, the photometric field formed by the biprism will be uniform when the optical axis of the Nicol prism is at 45° to that of the Wollaston. When a photographic density is placed before one of the windows, the equality of brightness in the two halves of the field will be disturbed but it may be re-established by rotation of the Nicol to decrease the comparison beam to the same brightness. The angle through which the Nicol is rotated is a measure of the density of the photographic deposit.

In order that a true measure of the transmission or density may be obtained, it is necessary that the optical axes of the Wollaston and Nicol prisms be prop-



erily oriented. When such is the case, complete extinction of one beam will be obtained for angular settings of 0°, 90°, 180° and 270°. The two fields will balance in brightness at 45°, 135°, 225° and 315°, provided that the instrument is clean and that the two openings in the nosepiece are equally illuminated with unpolarized light. In some forms of this instrument the scale reads directly in transmission or density, or both, and the extinction and balance points are indicated.

Failure to obtain such balance points accurately indicates a lack of uniformity of illumination of the windows W1 and W2, a partial polarization of the incident light, lack of optical cleanliness or improper orientation between the Nicol and Wollaston prisms. If the complete photometer head is rotated about its vertical axis through an angle of 180° after which equal and opposite discrepancies are found then the fault lies in the illumination. Provision will be found on the mounting for angular adjustment of the Nicol or Wollaston prism. It cannot be too strongly stressed that an adjustment involving a resetting of the prisms should not be undertaken by one not thoroughly familiar with the optics of the instrument involved. For more complete details concerning this type of photometer and directions for the precise adjustment of it the reader is referred to "The Principles of Optics" by Hardy and Perrin⁴ and "Photometry" by Walsh⁵.

In Table II is shown a conversion table for determining density from the angular readings on those polarization densitometers which are provided with a scale in degrees only. It is customary in photographic practice to make all readings in that quadrant lying between 0° and 45°. In some cases the film to be measured is placed under the nosepiece of the photometer in such a way that a developed but unexposed area comes beneath the comparison window. By this means the density of the base and the emulsion fog is subtracted during reading. When readings are made in this manner rather than in the customary one where the comparison beam is not obstructed, proper allowance should be made in the interpretation of the results and in any attempt to correlate them with measurements made otherwise. When using motion picture films, no significant difference will be found whether the measurements are made with the emulsion toward or away from the opal glass.

Since the comparison beam is decreased in brightness by rotation of the Nicol until the halves of the field balance, the field becomes successively darker as higher densities are measured so that the instrument should be used in a not too brightly lighted room. Care should be taken in the use of some polarization densitometers when the angle between the prisms, i.e., the scale reading, becomes less than 10° as the effect

of scattered light may become great enough to affect the readings. If a neutral density measured in the instrument having a value of approximately 1.0 is used over the comparison field when photographic densities exceeding this value are being measured and the density of the compensator added to the test density value obtained, the effect of the scattered light can be minimized and the effective density range of the instrument will be increased. In a similar manner measurements may be made on gray or colored base films by placing in the comparison field a piece of base from the same roll as the one from which the test density was made. For this purpose the emulsion should be washed from the base. Here no change need be made in the measured value, as the effect is merely to discount the base color. Strictly speaking, a piece of base from which the emulsion has been washed should always be used in the comparison field even for "clear" base

such as in positive film. The error introduced by failure to do this is small, however, and because all density specifications in use today include the "clear" base, there appears to be no reason for altering current practice. In attempting to compute relative level of sound tracks on clear and colored bases this should be taken into account. Exactly the same variable density sound tracks on a clear and colored base positive would appear to have a volume level difference of about 0.6 db, if no correction is made for the clear base. To compute the level difference between two track densities the following equation is used:

$$db = 20 (D_1 - D_2)$$

where D_1 and D_2 are the density values. In the case of projection prints the "projection" density values should be used. For negatives the diffuse value should be substituted in the equation and the result multiplied by the negative gamma.

(Continued on Page 475)

TABLE II

Angles	0	.1	.2	.3	.4	.5	.6	.7	.8	.9
0										
1	3.51	3.43	3.36	3.29	3.22	3.16	3.11	3.04	3.00	2.96
2	2.91	2.87	2.83	2.79	2.76	2.72	2.69	2.65	2.62	2.59
3	2.56	2.53	2.50	2.48	2.45	2.43	2.40	2.38	2.36	2.33
4	2.31	2.29	2.27	2.25	2.23	2.21	2.19	2.17	2.15	2.13
5	2.11	2.10	2.08	2.07	2.05	2.03	2.02	2.00	1.99	1.97
6	1.96	1.94	1.93	1.91	1.90	1.89	1.87	1.86	1.85	1.83
7	1.82	1.81	1.80	1.78	1.77	1.76	1.75	1.74	1.73	1.72
8	1.70	1.69	1.68	1.67	1.66	1.65	1.64	1.63	1.62	1.61
9	1.60	1.59	1.58	1.57	1.56	1.55	1.54	1.53	1.52	1.52
10	1.51	1.50	1.49	1.48	1.47	1.46	1.46	1.45	1.44	1.43
11	1.42	1.41	1.41	1.40	1.39	1.38	1.37	1.37	1.36	1.35
12	1.34	1.34	1.33	1.32	1.31	1.31	1.30	1.29	1.29	1.28
13	1.27	1.27	1.26	1.25	1.25	1.24	1.23	1.23	1.22	1.21
14	1.21	1.20	1.19	1.19	1.18	1.17	1.17	1.16	1.16	1.15
15	1.14	1.14	1.13	1.13	1.12	1.11	1.11	1.10	1.10	1.09
16	1.08	1.08	1.07	1.07	1.06	1.06	1.05	1.05	1.04	1.03
17	1.03	1.02	1.02	1.01	1.01	1.00	.99	.99	.99	.98
18	.98	.97	.97	.96	.96	.95	.95	.94	.94	.93
19	.93	.92	.92	.91	.91	.90	.90	.89	.89	.88
20	.88	.87	.87	.86	.86	.85	.85	.85	.84	.84
21	.83	.83	.82	.82	.81	.81	.80	.80	.80	.79
22	.79	.78	.78	.77	.77	.77	.76	.76	.75	.75
23	.74	.74	.74	.73	.73	.72	.72	.72	.71	.71
24	.70	.70	.69	.69	.69	.68	.68	.67	.67	.67
25	.66	.66	.65	.65	.65	.64	.64	.64	.63	.63
26	.62	.62	.62	.61	.61	.60	.60	.60	.59	.59
27	.59	.58	.58	.57	.57	.57	.56	.56	.56	.55
28	.55	.54	.54	.54	.53	.53	.53	.52	.52	.52
29	.51	.51	.51	.50	.50	.49	.49	.49	.48	.48
30	.48	.47	.47	.47	.46	.46	.46	.45	.45	.45
31	.44	.44	.44	.43	.43	.43	.42	.42	.42	.41
32	.41	.41	.40	.40	.40	.39	.39	.38	.38	.38
33	.37	.37	.37	.36	.36	.36	.36	.35	.35	.35
34	.34	.34	.33	.33	.33	.32	.32	.32	.32	.31
35	.31	.31	.30	.30	.30	.29	.29	.28	.28	.28
36	.28	.27	.27	.27	.26	.26	.26	.26	.25	.25
37	.25	.24	.24	.24	.23	.23	.23	.22	.22	.22
38	.21	.21	.21	.20	.20	.20	.20	.19	.19	.19
39	.18	.18	.18	.17	.17	.17	.16	.16	.16	.16
40	.15	.15	.15	.14	.14	.14	.13	.13	.13	.12
41	.12	.12	.12	.11	.11	.11	.10	.10	.10	.09
42	.09	.09	.08	.08	.08	.07	.07	.07	.06	.06
43	.06	.06	.05	.05	.05	.05	.04	.04	.04	.03
44	.03	.03	.02	.02	.02	.01	.01	.01	.01	.00
45	.00									
	0	.1	.2	.3	.4	.5	.6	.7	.8	.9

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Agfa Issuing Twin Eight Hypan Fitting All Doubles

Twin Eight Hypan, a new reversible film especially designed for use in double 8 cameras, has been added to the line of Agfa films. This new emulsion is three times faster than Agfa single 8mm. films and combines exceptionally fine grain and brilliance with very high speed.

This combination of emulsion characteristics enables the taking of movies of numerous subjects, heretofore beyond the range of 8mm. cameras. In addition,

the Twin Eight Hypan film provides a balanced panchromatic color sensitivity that makes it suitable for use in daylight or artificial light, a wide latitude that minimizes exposure errors, unusual resolving power and a brilliant gradation.

Halation protection is supplied by the particularly effective coating used on other Agfa reversible films.

Made by Agfa in Binghamton, N. Y., Twin Eight Hypan Reversible is supplied in 25 foot spools containing 50 feet of 8mm. film at a list price of \$2.25, which includes processing at any authorized Agfa laboratory.

Research Council Issues Supplement to Old Bulletin

The Research Council of the Academy of Motion Picture Arts and Sciences has issued a supplement to the previously issued technical bulletin of October 10, 1938 ("Third Revision, Standard Electrical Characteristics for Two-Way Reproducing Systems in Theaters"), containing specifications for Standard Electrical Characteristics for International Projector Simplex Four-Star Sound Systems.

Use of these standard electrical characteristics will permit the theatre to derive the maximum advantage from the latest studio sound recording practices and will result in a more uniform sound quality in all theatres using these systems.

These standards, adopted by the council after holding a great number of listening tests in several theatres in the Southern California area, are a continuation of the work of the Council's Theatre Standardization Committee to further the coordination between the theatre and studio groups.

Pacific Laboratories Has Complete 16mm. Program

The Pacific Laboratories, on the fourth floor of the Beakin Building, 1027 North Highland avenue, Hollywood, conducts complete 16mm. film service. This includes a sound truck. The company was moved to create these facilities to respond to a demand for specialization in sub-standard work, with recording directly on 16mm. film.

A twelve-tank 16mm. developer, with a capacity of 20,000 feet a day, has been built from plans specially drawn. Production of sound tracks, composite prints, duplicate negatives, editing, etc., are also part of the service.

Cine-Kodak Outdoor Guide

Exposure data for all Cine-Kodak films, 8mm. and 16mm., black-and-white and Kodachrome, are provided in a new Cine-Kodak Outdoor Guide retailing at 10 cents. One dial adjustment yields a simultaneous exposure reading for all the films, and for light, average and dark subjects with Kodachrome. Four daylight conditions (from "bright sun" to "cloudy dull") and four angles of lighting (back, side, flat front, and open shade) are covered.

Norman-Willetts' Photo Supplies

Photo Supplies, a book on cameras, films, paper, chemicals and sundries, has been issued by the Norman-Willetts Camera Center, 330 West Washington street, Chicago. The book is 6 by 9 inches, contains 116 pages, and is profusely illustrated. It is a well-printed book, and being set in small type as a rule carries a lot of matter attractively presented.

Quality for the Amateur Cinesmith

(Continued from Page 463)

K2 FILTER USED		
	COLOURED STRIPS	GREY TONES UNAFFECTED BY FILTERS
RED		
SCARLET ..		
RED-ORANGE .		
YELLOW		
PALE YELLOW-GREEN		
GREEN		
BLUE-GREEN ..		
BLUE		
BLUE-PURPLE .		

K. 2. Will give satisfactory contrast of clouds against a blue sky. Yellows will appear almost white.

NO FILTER USED		
	COLOURED STRIPS	GREY TONES UNAFFECTED BY FILTERS
RED		
SCARLET		
RED-ORANGE .		
YELLOW		
PALE YELLOW-GREEN		
GREEN		
BLUE-GREEN .		
BLUE		
BLUE-PURPLE .		

No filter used.

To arrive at the increase of exposure needed when a colored filter is used, it is necessary to square the F number which would be used normally, divide that by the filter factor, then take the square root of this figure, e.g.:—

$$\begin{array}{r} 16 \times 16 = 252 = 126 \\ \hline 2 \qquad 2 \qquad 1 \end{array}$$

The square root of 126 is approximately 11. Thus if a two times filter is used on a scene that would normally require an exposure of 16, then the lens would have to be opened to 11. While this appears simple, when small stops are used, the problem is more involved when larger apertures are needed, e.g. An F 4 scene photographed with a two times filter requires a stop of F 2.8.

This chart will be helpful if a quick answer is needed for a filter factor problem. It also shows the increase of exposure necessary when the normal speed of a camera is varied.

On the left of Ilford Test Chart are colored strips of paper. On the right are gray tones which approximately match the luminosity of each coloured strip. Various filters were used to photograph this chart in daylight. The blue strip was much darker than a "sky" blue. Kodak Class "C" film was used to make the tests. This film has approximately the same colour sensitivity

as all Kodak cine films except cine-Kodak 16mm. Panchromatic. In other words, the test was made with film equal in color sensitivity to super sensitive Panchromatic film, not ordinary Panchromatic film.

Aid in Vacation Films

Movie makers who take especial pride in their World's Fair and vacation films of this year now have an excellent aid in preparing their footage for audience presentation in the new Besbee Ediscope.



Give Spectators a Thrill!

"Stay-at-home" spectators who watch The Big Game via your movies or projected stills will get a real thrill out of your pictures when you show them on a Da-Lite Glass-Beaded Screen. It's greater light reflective qualities make every shot appear brighter, sharper, clearer and more real. The model shown above, priced from \$2.00* up, may be set up on a table or hung against a wall. Other styles include hanging screens from \$7.50* up and the popular Challenger with tripod pivotally attached to the case, from \$12.50* up. Ask your dealer for a demonstration! You too will agree "Da-Lite is the buy!" Write for literature and name of nearest dealer.

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Fast Service on Football Films Given by Agfa Ansco

Following a custom which the Agfa Ansco Corporation established several years ago for the benefit of coaching staffs, Agfa 16mm. reversal laboratories will be prepared to give special service on the processing of football films during the coming season.

All of the Agfa 16mm. reversal laboratories in the United States will remain open over the week ends for processing of football films. These will be finished and returned the same day as received, thus permitting viewing of the films by the coaches and football enthusiasts within the shortest possible time after the game.

To insure quickest service, all films should be sent to the nearest processing station by parcel post special delivery, air mail, or by messenger. The films will be returned by special delivery if three hundred feet or more are involved.

Otherwise, and also for shipment by air mail, sufficient return postage should be sent along with instructions. To facilitate identification, the outside of the parcel should be marked "Football Films."

The Agfa Reversal Laboratories providing this special service include: Agfa

Ansco Corporation, 245 West 55th street, New York; Agfa Ansco Corporation, 433 East Erie street, Chicago; Agfa Ansco Corporation, 1224 South Hope street, Los Angeles; Agfa Ansco Corporation, 121 Julia street, Jacksonville, Fla.; Motion Picture Service Company, 125 Hyde street, San Francisco, and the Calvin Company, 26th and Jefferson streets, Kansas City, Mo.

Germany's First Animated Cartoon Announced in Color

Production of Germany's first animated cartoon has just been announced, Acting Commercial Attache R. M. Stephenson, Berlin, has informed the Department of Commerce.

The animated film will be in color and will be based on a fairy-tale plot which has been especially written for the project, it is pointed out.

The forthcoming locally produced "Maerchen-Trickfilm," or animated cartoon, has received very little publicity to date, the only reference to it having been a short announcement in the National Zeitung.

Production of this type of film in Germany, however, the Commerce Department report said, is noteworthy in that

only a few months ago German newspapers were commenting ironically on the success of American animated cartoon films.

In this connection one commentator wrote that "Germany has not yet found it necessary to fall back on fairy tales for our films—we still have ideas and audiences that can appreciate them."

Agfa Releases Superpan Supreme Film and Packs

Agfa Superpan Supreme, the high-speed, fine-grained, panchromatic emulsion which has been so popular among motion picture photographers and miniature camera users, is now available in roll and pack form.

Providing twice the speed of Superpan roll and pack film, which it replaces, the new Superpan Supreme brings added subject range to every photographer's equipment. In addition, the new film provides a notable improvement in fineness of grain and a better balanced color sensitivity.

Made by Agfa Ansco Corporation in Binghamton, N. Y., the new Superpan Supreme is available in all popular sizes of rolls and packs at no increase in price over Agfa Superpan formerly supplied.

Until new cartons can be supplied for all sizes, some sizes will be supplied in old-type Superpan cartons, identified, however, as the new Supreme type by a small label or the imprinted word "Supreme."

"Mr. Roosevelt, Won't You Please Run Again?" Ready

Garrison Films, of 1600 Broadway, announces the release on 16mm. sound film of the one reel musical short, "A Musical Message From Hollywood," directed by Frank Tuttle and Herbert Biberman, featuring Charles Purcell and "The Notables" Quartet.

The picture which introduces the popular song "Mr. Roosevelt, Won't You Please Run Again?" was recently previewed with acclaim at the Young Democrats Convention in Pittsburgh, where 2000 copies of the phonograph record and sheet music were purchased by delegates. Prints of the film are available for immediate unrestricted outright sale for \$30 a reel.

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An important scene from RKO Radio's "In Name Only" starring Carole Lombard, Cary Grant, Kay Francis and Helen Vinson.

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NEW BOOKS

American Annual of Photography 1940. Volume 54. American Photographic Publishing Company, 353 Newbury street, Boston. Paper, \$1.50; cloth, \$2.25. 385 pp. 100 pp. illustrations. Edited by Frank R. Fraprie, F.R.P.S., and Franklin I. Jordan, F.R.P.S.

The fifty-fourth volume of the American Annual of Photography 1940 has been issued. It is worthy of its name. There are abundant illustrations, 96 pages in one group and the articles throughout the book being profusely pictured.

Its opening shot is "Photography Goes Forward—A Review of a Decade of Progress," by Glenn E. Matthews. In twenty pages the writer makes interesting reading for the seeker after the truth of today or for the man who is studying history a matter of a hundred years hence.

"Much of the growth of photography, especially during the last quarter-century," says Mr. Matthews, "can be traced to research. Progress has been rapid, especially during the past ten years, which have been characterized by one authority as the panchromatic era. It has also been said that we are at the threshold of an age of color."

Coursin Black talks on "Photographic Permanence." One paragraph catches our eye: "But though there is much similarity between photography and painting there is dissimilarity as well. Ours is a split-second art throbbing with the fast tempo of *now*, endowing in black-and-white imageries the imaginative fires of the camera creator. Photography has a spontaneity that is lacking in painting; an impetuosity that sweeps aside the cobwebs of premeditation.

"Yet, though we make our picture in a fraction of a second, its artistic qualities need not be inferior to any other art, but its mannerisms and rules must be free of those restrictions imposed by the slower and less spontaneous arts. We are developing our own techniques and adapting them to speedy necessities."

There are hundreds of pages of good reading. Those who contribute to it are Roland F. Beers, William S. Davis, J. M. Stofan, Laurence Dutton, J. H. Stellwagen, E. C. Dymond, Honess Lee, Henry A. Fowler and Lloyd E. Varden, Alfred A. Monner, Hans A. Eriksen, Leo A. Leigh, Willard D. Morgan, Arthur Hammond, T. A. Rogers and B. L. Robertson, Charles W. Seager, J. G. Pratt, George F. Moss, E. Borg, and Frank R. Fraprie.

"Who's Who in Pictorial Photography 1938-39" occupies thirty pages of small type and gives a deal of information. Exhibitions listed in 1938-39 are 92, the number of exhibitors are 13,746, the number of prints hung 25,189, average number of prints per exhibitor 1.832, actual number of exhibitors 4832, and the number hung only in one show 2556.

There are some 750 camera clubs listed as being in business.

Faster and Better 8mm Equipment

(Continued from Page 454)

same camera, loaded with either of the new films, can be used successfully with the lens stopped down to f.4.

Where, with the slower film, an aperture of f.2 might be needed, the man with an f.3.5 lens can now load his camera with the new film, and make pictures successfully.

This means that less light—fewer lamps and smaller ones—can be used for interior picture making. It means that exterior scenes can be filmed under poorer illumination.

Better, Cheaper Pictures

And if one has ample illumination, either artificial or natural, it is now possible to stop down and get better depth and definition, rather than using the lens more nearly wide open.

The combination of these new films and the wide-angle fitment add notably

to the flexibility of 8mm. camerawork. While they are equally applicable to both interior and exterior shooting, their most spectacular application will naturally come in interior filming.

There the wide-angle lens will prove incredibly useful, making it possible to get long-shots in rooms too small to permit such angles with the normal lens, and to film the closer angles more conveniently, and in less space, than has hitherto been possible.

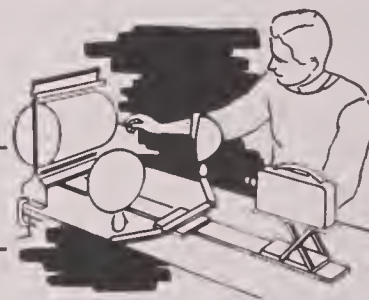
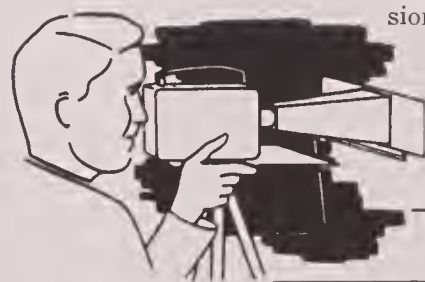
The faster film—either of them—permit the use of fewer and smaller lighting units. Alternatively, it permits illuminating larger areas with the equipment already used for interior work on the slower film, and stopping down for better definition in ordinary shots with normal lighting.

The two developments together add up to the highly desirable total of better pictures, more easily obtained. The three manufacturers responsible for these improvements are to be highly congratulated on having advanced the scope of 8mm. moviemaking.

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Besbee is the only house in America supplying such a wide variety of accessories for completing your personal movies. Among these are Title Makers and Title Letter Sets for "professionalizing" your films . . . the Effectograph which permits you to frame your pictures in 16 different effects . . . the Ediscope for editing your films quickly and easily . . . and a host of other simple-to-operate items. Your pictures no longer need be explained verbally . . . they no longer need be ordinary

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Besbee Universal Title Maker, for all cameras . . . \$14.50
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Besbee Pro-Trick Title Frame . . . \$18.50
Besbee Effectograph Framing Device . . . \$12.50
Besbee Ediscope, a complete film editing system . . . \$6.50
Besbee Reel Clips; a practical device to keep film from unwinding, 8mm. . . 75c doz.
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Making Photographic Record of American West Indies

Alexander Alland, the photographer who did such a splendid job with Felix Riesenbergs on the book "Portrait of New York" (Macmillan), is now in St. Thomas, Virgin Islands, with Jacques Davidson, photographer son of Jo Davidson.

Their object is to make a complete photographic record of the Virgin Islands and the rest of the West Indies—gathering as much authentic data with the photographs as is possible, and, incidentally, in the hope their work will facilitate closer relationship between the United States and her colonies. They will remain on each location as long as it is necessary to gather sufficient material.

They are equipped with five cameras—Linhoff, Graflex, Contax, Bell and Howell movie camera and a Rolleiflex.

A diversified set of lenses enable them to meet any photographic situation. Camera enthusiasts would be interested in knowing that Mr. Alland has designed a completely equipped portable darkroom, which enables them to see a day's "take" before moving on to another location.

Exports of American Films Show a Decrease for 1939

Preliminary figures for the first six months of 1939 for American exports of motion picture films, both negative and positive, show a decrease of 8,070,745 linear feet as compared with the first six months of 1938, according to data compiled by Nathan D. Golden.

Motion picture cameras of standard, or 35 M.M. gauge, show a decrease for the first six months period under discussion; 72 of such cameras, with a value of \$22,864, were exported as against 120 such cameras, valued at \$67,920 for the first six months of 1938.

Exports of sub-standard silent motion picture projectors totaled 9,509, valued at \$220,845 and sub-standard sound projectors, listed for the first time this year, totaled 915 with a value of \$133,271. Total exports of both silent and sound sub-standard gauge during the first six months of 1938 were 12,347 with a value of \$361,683.

Sub-standard camera exports for the January to June period amounted to 10,484, valued at \$282,136 as compared with 15,908 cameras, valued at \$455,298 for the same period during 1938.

Building Novel Projection Stand

(Continued from Page ???)

for arranging the reels to be projected for an evening's program.

The pilot lights make it unnecessary to switch on the room lights between reels, and the four double outlets provide (after devoting two to the invaluable pilot lights) six points at which not only your own movie and slide projectors may be connected, but also any that your friends may bring to handle film standards your own equipment doesn't take.

The master switch eliminates all risk of going off and leaving your projector circuits "hot"; having the pilot lights in this circuit gives a very good check as to whether the line to the projectors is on or off.

Finally comes the matter of cost. Where a commercially made projector stand runs into a matter of anything from fifteen or twenty dollars up, mine cost about four dollars. Lumber prices vary in different districts, of course; but my lumber cost less than \$3, and the electrical equipment about \$1.

The only other cost was an afternoon of good exercise with saw and hammer, and a thumb that gave evidence I couldn't always hit the nail on the head!

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Densitometry and It's Application

(Continued from Page 469)

2. The Balanced Wedge Photometer.

The Eastman Densitometer is of the wedge comparison type where the density to be determined is compared, by means of a photometric field, with a previously calibrated wedge. A schematic diagram of the instrument is shown in Figure 3. Light from the single source, A, is reflected by the mirrors B and D through a ground glass at E to a sheet of white optical glass at F where a small portion is reflected downward to the mirror G, the remainder of the light passing through F where it is lost. This illumination falling on the mirror is the comparison beam. From the same light source a beam passes through the wedge W and the opal glass at H and enters through the small opening in the mirror G, at a point in the center where the silver coating has been removed in a circle having a diameter of 20 mils. This mirror, the outer portion illuminated by the comparison beam with a small concentric spot of transmitted light in the center is the photometric field which is viewed through the eyepiece J. The lamp used for this densitometer is the Mazda No. 1134, a double contact base, 6-8 volt, RP-11 bulb, which is operated at 3.9 amperes through a transformer. The lamp should be positioned so that the plane of the filament is parallel to the wedge.

The wedge used in this instrument is a photographic one consisting of a developed plate having a density range from 0.0 to 3.0 in about 315° of its circumference. The wedge is pivoted in its center, about which it may be rotated freely. When no film is in place over the opal glass H, a density of 3.0 is required in the wedge immediately under H to establish a brightness balance between the two parts of the photometric field. Any density which is inserted in the beam may be measured by subtracting enough of the wedge density by rotation to re-establish the brightness balance between the two fields. This results in a constant field brightness at the balance point. When a density of 3.0 is in the test field all of the wedge density would be removed, i.e., to a density of 0.0 in order to balance the photometric field. As the two fields are supplied simultaneously from the same lamp, variations in the lamp current are of no consequence. This cancellation effect is true of the polarization type also, the two fields of which are normally illuminated by the same lamp.

While the Eastman Densitometer has been described fully by Capstaff and Purdy*, it is worthwhile making a short review here of the optical principles involved in the photometric field because of their bearing on the performance of the instrument. In Figure 4 is shown a

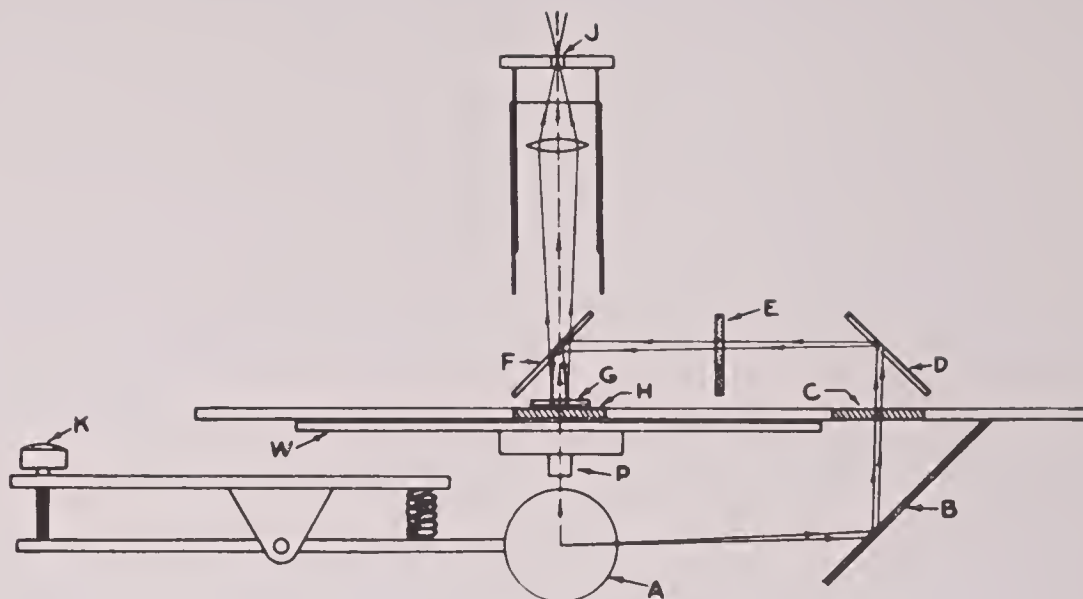


Figure 3

diagram of the optical head. The comparison beam entering from the right is reflected downward by the optical glass F to the mirror G. The opening in the mirror will reflect a very small portion of the light as compared with

the silvered surface. If now a mirror were placed in the position normally occupied by the density, completely obstructing the beam through the wedge, a balance would nevertheless be estab-

(Continued on Page 478)

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Agfa Issues New Texture Screens and Border Mask

Photographers who like to see their prints finished in the finest professional manner with a light texture printed in throughout the field of the photograph and a softened "etching-edge" between picture area and borders will be interested in the new texture screens and border mask just announced by Agfa Anasco Corporation.

The new Agfa texture screens are available in four types, each of which lends an attractive and distinctive appearance to the finished print. Three of the screens are interesting fabric textures, identified by the names Satin, Oxford and Homespun, while the fourth is an unusual, irregular pattern named Ripple.

The Texture Screens measure 8x10 inches in size and can be used for both contact and projection printing, being placed in immediate contact with the photographic paper during exposure. Special precautions have been taken in the preparation of these Screens to permit the use of the same contrast grade of photographic paper that is employed when prints are made without a Texture Screen.

The Agfa border mask, which has also been announced, is an 11 by 14 inch negative especially designed for use with the texture screens. The border mask provides a 7½ by 9½ inch field with an attractive etching-edge border.

Home Movies Need Sound

(Continued from Page 451)

judging recordings solely by title, and builds a library which he taps each time he shoots a new film.

Another spends his noon hours prowling about in phonograph record shops and his evenings listening particularly to recorded programs of local radio stations. Whenever he hears a tune that tickles his fancy he checks title and recording with the station's musical director and makes an investment.

Best suggestion of all perhaps is to invite your musically-minded friends to sit in on a preview of the film and offer tips on the best types of background music. Even at that, each person will probably offer different recommendations, for individual tastes and preferences are bound to vary.

Parades call for lively band music, with plenty of drum. You're sure of

that. Likewise, carnival or circus scenes might fit well with Victor's "Barnum & Bailey's Favorite March."

Pastoral and wildlife stuff takes in a wide assortment of recordings—"Rustle of Spring," "Afternoon of a Faun," "Entrance of the Little Fauns," "The Swan," "To Spring," "Peer Gynt," and many others.

Mountain scenics deserve lofty, even religious music, such as "Rock of Ages" and "Largo." A reel of sunsets in color might feature for background music—"When Day Is Done," "At Sundown," "Perfect Day," etc.

Two Ways to Fool 'Em

In some instances, travelogs particularly, music and sound effects are not enough, and some dialog may be necessary to enlighten audiences.

There are two ways in which this can be introduced—ad-libbing direct through a microphone hooked up with the amplifier, or playing back the voice actually recorded on disc. The latter form is advantageous, for if the dialog is recorded as a series of cuts, these can be turntable-played when keyed to certain scenes in the film.

When talking over a microphone or playing a voice recording, the background music should always be softened considerably, and when the dialog is almost over the music should be brought back to its former volume.

For your audience's sake, remember always to soft-pedal your sound accompaniment rather than play it up loud. Your film presentation will seem all the more effective if every minor detail bears close watching.

Indeed, the fascination of attempting to set your own films to music will grow on you until finally you'll begin to wonder which threatens you with the most work and fun—movie making itself or this business of dubbing in sound.

[ED. NOTE: George Culbertson, 4928 Newton avenue South, Minneapolis, whose sound synchronizing work is described in this article, has offered to answer any queries on sound from readers of American Cinematographer. Make your questions specific, and be sure to inclose a stamped, return addressed envelope for reply.]

Forming Amateur Production Units

(Continued from Page 441)

Now you have an ally! You have a man capable of discernment in the selection of story. Theoretically he also is a cinematographer. In a surprisingly short time he will assimilate much of your knowledge.

Not a great deal should restrict your choice of story. Originals are best and safest. If you insist upon borrowing from literature, take care that you do not infringe on someone's copyright.

Picking a Play

Should you decide to use a one or three act play, first contact whichever publishing house holds the copyright. Such agencies often are extremely generous in their terms for the release of amateur production rights.

We still strongly advise against the use of royalty plays. Remember, they have been done already by professionals whose performances you cannot exactly hope to eclipse. Original material can, for instance, be documentary. Your film can be kept local, can possess historical and educational interest.

In selecting a story, always keep in mind those considerations which will govern its magnitude. How well equipped are you? Have you lighting facilities

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adequate for spacious interior shots? Does your cast handle easily?

We submit that your first scenario picture should be a short, a reel in length. It will introduce you to most of the problems later to be met on a larger scale.

Though the question of story taboos falls within the writer's province, both of you be reminded at all times that the film should provide constructive entertainment. Some subject matter is not only in poor taste, but lacks in entertainment value.

We believe insanity is one of these, the morbid theme another. Either may constitute art; the subject is controversial. But when there is so much material of absorbing interest from which to draw, why risk attempting complexities bigger than you can handle?

If Comedy Be Simple

Stories with the accent on comedy, even light love stories, are amusing and safe experimental grounds. In these, avoid too complex situations involving too many people.

For example, if the suitor must prove his worth to his ladylove's irascible, gouty and skeptical papa, let the simplest comic aspects of the situation dominate your film. Keep the couple's affections discreetly in the background, perhaps highlighting them with humor.

When you plan your more ambitious picture, line up dependable people.

This, by the way, is your third preliminary. Naturally, your chief concern will be your actors. If these are really capable, don't fret if they're not photogenic. The writer, or writer-director, will have something to say about these.

He may prefer people without previous dramatic experience; better results often are achieved with such folk. On the other hand, he may lead you directly to the local community theater. A fine source for talent, at any time.

Casting to type is a good idea. Oldsters who enjoy playing are best choices for character parts, unless some young man or woman you know is adept at make-up and histrionics.

Eliminates Cost Hazard

Decide first what kinds of people you need, having in mind the part you are casting. You may be saddled, more or less, with willing ones without talent in a given direction. Details of production may be assigned them. Usually they will tackle their assignments with hearty enthusiasm. Let them seek locations, have charge of personal properties, dress

sets, handle the lights. They can be kept busy.

As your company expands, so will the variety of your personnel increase. If necessary, double up on assignments. One of our feminine leads has been script girl (a very important job); she also designs costumes and makes them. We're fortunate! She is good-looking and an excellent actress.

It is comparatively easy to match personnel to production needs and inversely to make concessions for the sake of company morale.

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So far we have spoken of the filming of a scenario picture with the assumption that it might be the project of one lone amateur cinematographer.

To omit mention of cooperative production by and among cinematography clubs would be withholding the very policy we wish most to encourage! Here, concerted, cooperative effort aids in the elimination of one of the most formidable hazards confronting the amateur. Costs!

The annual production of a feature-length scenario picture by a club, subscribed to in part by every member, would contribute a great deal to amateur cinematography.

Is there any reason, then, why every cinematographers' club should not admit writers, actors, artists and carpenters to membership as well as movicam hobbyists?

Club Form Group

The community theater has done much to polish the public taste for better legitimate drama. A community cinematographers' club, similarly organized, can evoke greater public appreciation of good film fare.

A community cinematographers' club already organized, but showing pictures only on an individual basis, could by vote decide to form a group for the production of more important pictures at stated periods. It could be every three months, six months or annually.

Whether the production unit be organized by a single individual or a club, rigid adherence to a carefully planned production schedule will recommend itself.

This becomes most apparent when shooting actually has begun. Rules and regulations, though confining, are absolutely essential to the successful completion of a picture.

In a written communication to prospective members of a local production unit, the organizer expressed his boundless gratitude for the time and effort to which they had dedicated themselves.

In the next sentence he reminded them that, having signified their willingness to cooperate, he expected nothing but cooperation and the strict observance of about ten rules, rules governing punctuality, responsibility, liability, and some isms.

If amateur cinematographers and those whose hobbies lie in related fields demonstrate an interest in these remarks we will answer queries addressed to us, care of this publication, to the best of our ability.

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Densitometry and Its Application

(Continued from Page 475)

lished as the two mirror surfaces would appear to be practically continuous. Naturally therefore, the surface to be measured should be diffuse. Films should be placed under the head with the emulsion side up, as the glossy surface of the base would appreciably alter the amount of light in the mirror opening. A certain amount of reflected light from the comparison beam would be added to the transmitted light. To establish the balance, a darker portion of the wedge would be needed so that the resulting density value would be less. The following is a comparison of readings obtained by the two methods on the same strip:

Emulsion up...	2.90	2.42	1.47	.62	.16
Emulsion down...	2.86	2.37	1.44	.59	.14

This point has been discussed at some length because it has been found that discrepancies between readings in various laboratories have been due to one of the measurements being made with the film improperly positioned. The densitometers have been calibrated with the emulsion side of the film up toward the head.

The zero setting of the instrument is adjusted by a knurled ring at the upper left side of the housing which moves the lamp to and from the wedge. This movement naturally affects the amount of light in the measuring beam more than in the comparison one as can be seen by reference to Figure 3. When the wedge is installed it is desirable that the lamp be away from the wedge, near the end of the adjustment, in order to avoid overheating of the wedge, should the lamp be left on inadvertently. A supplementary control over the lamp position is the amount of neutral density placed in the comparison beam at E, Figure 3. In addition to this neutral filter there is a special light green filter at this point which serves to give a good color balance between the two fields by correcting for the difference occasioned by the dissimilarity in their paths.

Because of the fact that the mirror surface is separated by a finite distance from the emulsion surface and further that the protective cover of black paper on the bottom of the mirror has an opening of necessity larger than that in the mirror, it is not possible to measure correctly the density of half and quarter-width variable area sound track. A special mirror has been made available recently for this purpose having an opening in the mirror only .012 inches in diameter rather than the standard of .020. Due to the leak light which comes around the track and enters the mirror the density value obtained would be too low. Since this can amount to as much as 0.15 in some cases where measurements are made on adjacent areas on the same track, one part full width and one quarter-width, the possible error is serious.

One solution to this problem is the use of a baffle made of shim stock having an aperture 0.03 inches in diameter directly over the opal glass. When the track to be measured is placed over this no light is allowed to leak around it. The apertures in the mirror and baffle must be carefully centered with respect to each other. The use of such a baffle has been found satisfactory for half-width track (.038 inches) but a smaller one for quarter-width track has been found unsatisfactory.

The black paper mask protecting the mirror must be kept in good condition as enlargement of the opening in it will affect the accuracy. The measurement of wet film is a frequent cause of deterioration of this mask which can be prevented by covering the mask with a thin sheet of Kodaloid or Kodapak. Under such circumstances the zero setting should be made with the sheet in place. Failure to protect the mirror from moisture often results in separation of the cover glass, necessitating replacement of the whole baseplate.

The wedges used in this instrument are individually calibrated from a series of master densities on positive film which were in turn calibrated on an instrument whose operation is based upon the inverse square law. This latter densitometer has been described by Capstaff and Greene⁶. The intermediate points on the scale are interpolated. The scale is marked in .02 units from 0.0 to 3.0. Because it is secondary in nature, having been calibrated against a primary standard, the density values obtained by its use must be considered to have a tolerance of $\pm .01$ when the instrument is in good condition and is used by a skilled observer. Discrepancies of the same order may be found between the results obtained by several observers, a condi-

tion true of all visual instruments. Obviously these errors are increased by deterioration of the instrument parts themselves. The condition of the instrument may be checked at any time by reading a series of densities over the range which has been calibrated on the inverse square law densitometer.

Recently a variation of this transmission type densitometer has been marketed, principally for use in the field of graphic arts, which can be used for reflection measurements as well⁴. To facilitate the measurement of colored matrices and dyes or inks used for color separation printing the eyepiece is equipped with yellow, magenta, and blue-green filters. The area scanned by this instrument for either transmission or reflection measurements is four millimeters in diameter. This combination densitometer has only a limited application to the motion picture field.

⁴ Hardy, Arthur C., and Perrin, Fred H.: McGraw Hill Book Co., New York, 1932.

⁵ Walsh, John W. T.: D. Van Nostrand Co., New York, 1926.

⁶ Capstaff, J. G., and Purdy, Roy A.: Trans. S.M.P.E., 11: 607, 1927.

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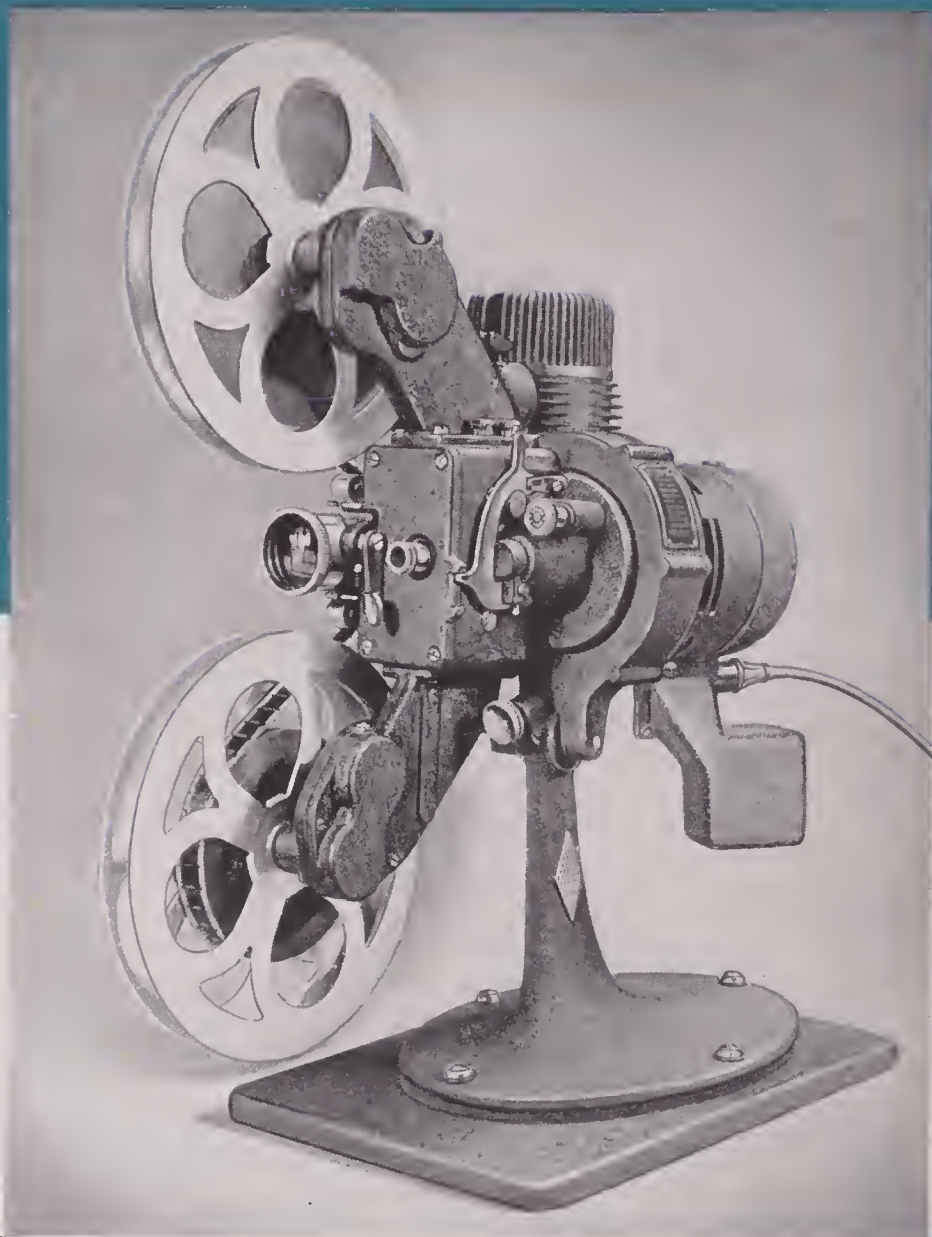
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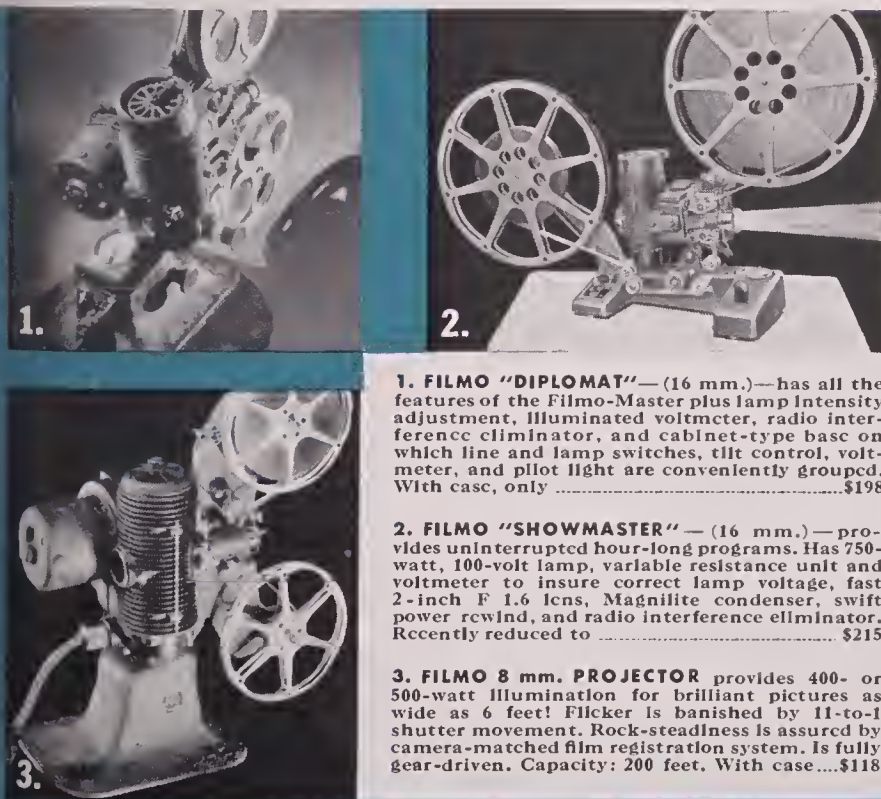
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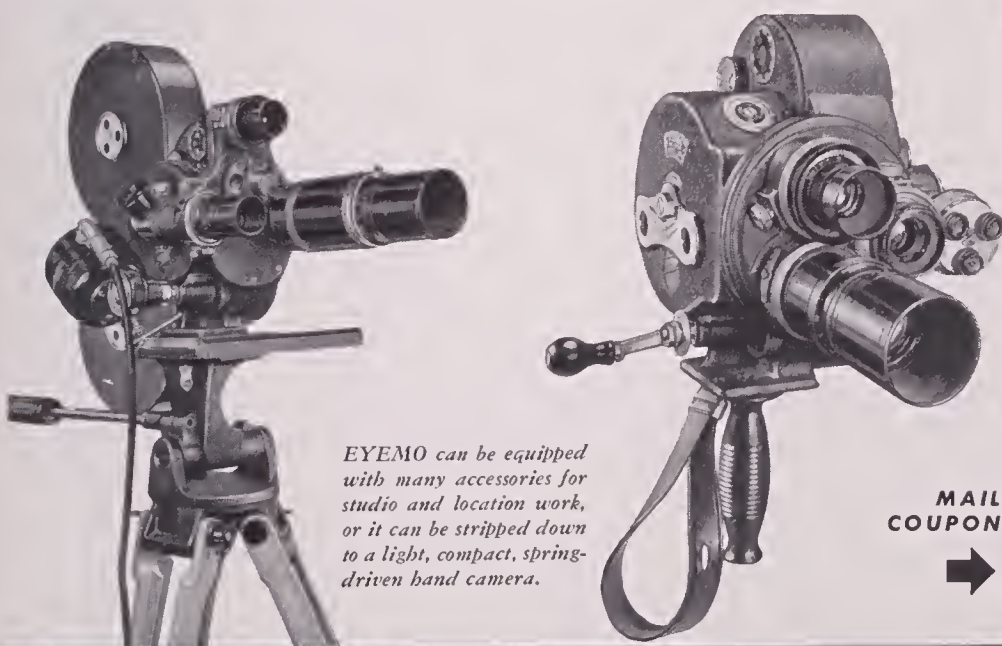
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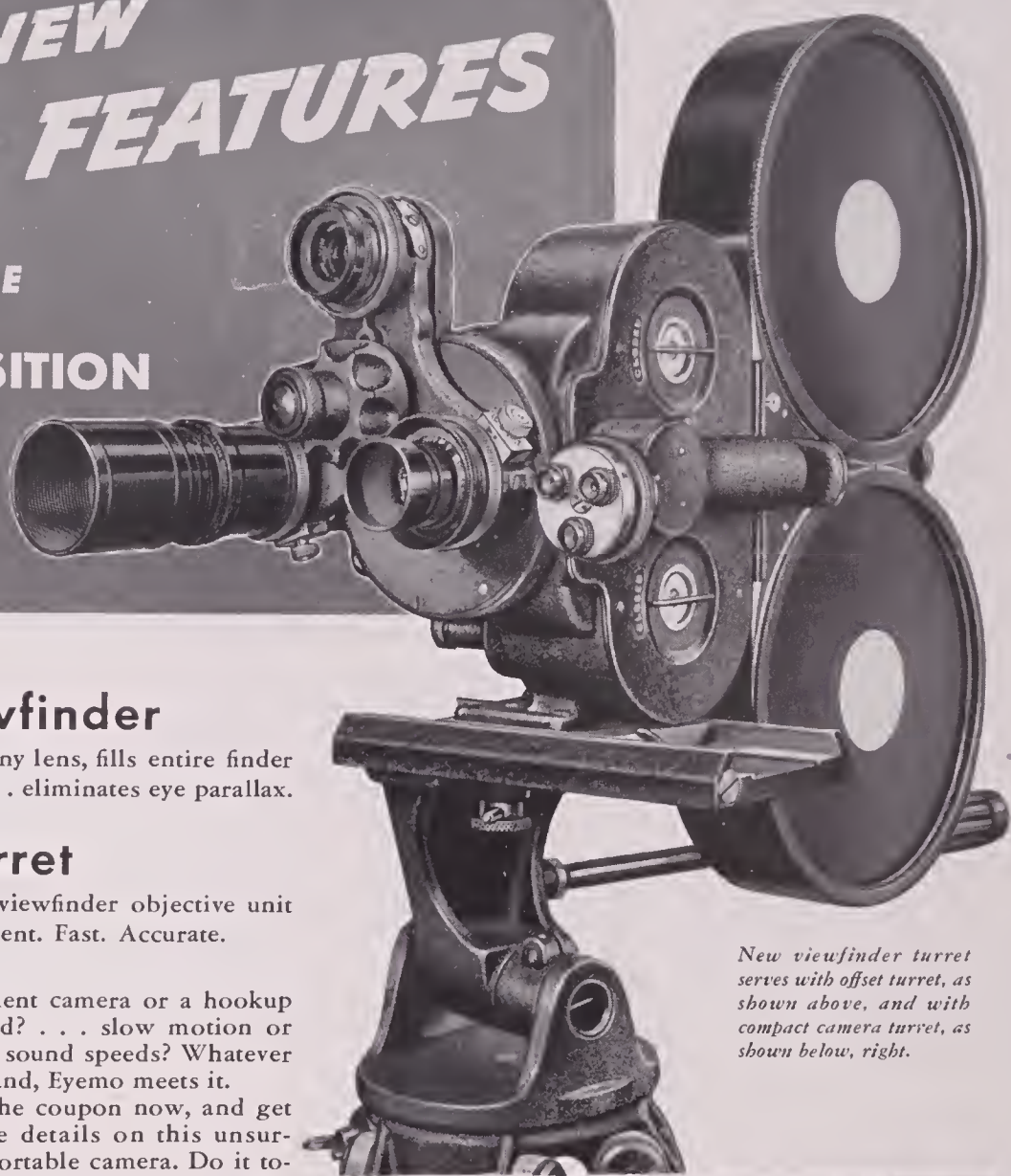


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Front Cover

THE big camera is rolling on a Paramount set, where Bing Crosby is costarring in "Road to Singapore," with Bob Hope and Dorothy Lamour. Bing is shown at the left. Others, left to right, are Director Victor Schertzinger, Don Gallaher (kneeling), dialogue director; Chief Cameraman William Mellor, A.S.C.; Neil Breckner, second cameraman, and Claire Bencke, script clerk.



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FINE GRAIN FILMS MAKE STRONG ADVANCE

By GEORGE BLAISDELL

ACCORDING to reports to the Society of Motion Picture Engineers, in Fall convention at New York, October 16 to 19, important discoveries in the realm of fine grain positive films have been made recently by Hollywood technicians.

One of the reports has been made by Dr. John G. Frayne of Erpi, chairman of the fine grain film committee composed of representatives of the Electrical Research Products Inc., and several of the Western Electric recording licensees, which has been functioning since February of the present year and signed by ten others representing those licensees on the one hand. Dr. Charles R. Daily of the Paramount Sound Department submitted the other.

Those composing Dr. Frayne's committee are L. A. Aicholtz of Universal, F. C. Albin of Goldwyn, G. M. Best of Warner Brothers, G. A. Chambers of Eastman Kodak, C. R. Daily of Paramount, John K. Hilliard of MGM, W. W. Lindsey of Selznick International, Hollis W. Moyse of Du Pont Film, Elmer Raguse of Hal Roach and S. J. Twining of Columbia.

It is worthy of note that while the objective of these searchers for improvement through the medium of fine grain films was in the interest of sound, nevertheless it has been found that as the new film reduces screen graininess, fuzziness, blur and background distortion to a minimum, also it provides for a warmth and richness not known before in films, affording more perfect image definition and a photographic ef-

fect described as the "luster of old ivory."

Improved Definition

The report of Dr. Frayne and his committee set forth that: "The improvements from the use of fine grain film in variable density recording are not confined to increased signal to noise ratio, but include other factors such as improved image definition which may be traced to reduced flare in the emulsion.

"This results in a cleanness of all high frequency tones not hitherto attainable, and is also accompanied by a moderate increase in the high frequency output in such films as compared to standard films. A very low degree of distortion is indicated, when measured by intermodulation or harmonic analysis, on fine grain prints made from fine grain negatives, especially if ultraviolet light is used in exposing the print stock.

"This low distortion undoubtedly is partially responsible for the pleasing quality of recordings made on fine grain films.

Better Light Sources

"To obtain satisfactory results with current fine grain stocks, dynamic methods are recommended for determination of optimum processing conditions, as misleading information may result from the application of classical sensitometry to these films. The use of these films under laboratory conditions generally calls for the exercise of greater care in processing and handling in order to

avoid noise from dirt and abrasions.

"Such noise is more evident on these films due to lack of masking by the lower background noise inherent in these stocks. One of the chief problems presented with the use of these films has been that of being able to obtain sufficiently low negative gamma and at the same time obtain the required negative density.

"This has required a development of suitable negative baths. While the slow speed of these films may still be considered a problem, the improvements in light sources as well as in optics indicate that present fine grain stocks or future ones, even more slow, may be exposed without any great difficulty.

"In spite of the difficulties attendant to the introduction of fine grain film in the sound recording field, the improvement in signal to noise and in general quality mean their inevitable introduction on a wide scale into the motion picture industry."

Dr. Frayne in his report says in opening that the MGM studio, after a thorough investigation of various fine grain emulsions, has adopted the type 222 stock furnished by the DuPont Company for all original negative and print material, as well as for the re-recorded negative. Several pictures have been released, the report continues, in which fine grain film has been used in some of the processes leading up to the release print.

Tests at Goldwyn

"At the Samuel Goldwyn Studios considerable tests were carried out on various experimental emulsions offered by DuPont and by the Eastman Kodak Company, as well as on some of the standard fine grain emulsions offered by both of these suppliers," the report continues. "The re-recording tests made by this studio were confined to original negatives and re-recording prints of scoring, and some of this material has been utilized in pictures that have been already released.

"For some time all re-recording prints at Paramount have been made on the 222 stock from a normal sound negative and one complete picture has been re-recorded to fine grain release negative with a limited number of release movie-tone prints also being printed on the 222 stock. This represents the first complete adaptation of fine grain stocks to release.

"The Universal Studio made some scoring and dialogue tests on the 1365 stock furnished by the Eastman Company, with prints being made on the same material."

Dr. Frayne tells how Erpi has been active in a fundamental investigation of the sensitometric properties and the signal to noise relationships of all the available fine grain emulsions with a view to recommending them wherever possible in the variable density recording program.

Reference is made by Dr. Frayne to the fact that the high pressure mercury arc with a high intrinsic brilliance has

been found to be the most suitable source for use in printing these stocks. Several laboratories on the West Coast are completely equipped or are in process of being equipped with these light sources.

Dr. Daily's Conclusions

Dr. Charles R. Daily of the Paramount Sound Department, who made a report to the engineers and who also has made an exclusive report to the American Cinematographer, in his conclusions to the convention makes the following significant statement:

"The commercial application of fine grain stocks for release sound and picture printing, for release sound negative and for dubbing prints has effected:

"A material improvement in picture detail and sound quality. The volume range has been materially increased and the disturbing effects of modulated film noise reduced."

The production which Paramount first introduced to its new stock, or rather the stock on which it had imprinted the results of its experiments, was "Geronimo!" This was DuPont 222. On this there has been made a sufficient number of prints to supply the key cities.

During the final third of the month of October the order was put into effect at Paramount to use the fine grain positive prints on the "Victor Herbert" production. This is believed will be a stronger picture than the first one selected by reason of the great amount of music in it, a better opportunity for the fine grain positive to show the stuff it is made of.

Lab and Sound Together

At the Paramount studio Chief Wilkinson of the laboratory department had had "something on his chest" for a long time. He worked on indefinite specifications until they became definite, at which time he called in the sound department. The latter department went to it with a will. More than that, the head of the department delegated Doctor Charles Daily, optical and light technician in the sound section, to work with the laboratory.

Doctor Daily made the air-cooled lamp while the sound department worked on getting sufficient exposure. The laboratory worked out low contrast developers which would bring the gamma down to the necessary levels.

The combination of sound and laboratory effort on exposing and developing test material resulted in determination of proper gammas and densities. The laboratory worked out exposure and development technique for making dubbing and release prints.

The camera department welcomes the changes that have resulted from the double play that went on from laboratory to sound to DuPont. It was Henry Sharp, A.S.C., to whom fell the pleasurable duty of putting the picture on negative.

"I don't think there is any doubt the cameramen will welcome the new film," declared Roy Hunter, head of the cam-



Left, enlargement of motion picture frame on positive formerly used.



Right, enlargement of print made on fine grain positive.

Same negative used in each case.

era department. "Heretofore we have had many improvements on the negative side, but the positive was not so fortunate. In fact, I have heard it said in the department that things could be done with the negative which could not be accomplished with the positive—that much better definition rode in the negative than could be replanted in the positive."

Positive Matches Negative

Speaking of the new positive fine grain film Loren Ryder said that great strides have been made in recent years in super-sensitive negative. "But the full value of these negatives was never realized," he went on, "because a matching positive film stock had not been perfected. Now we have the positive fine grain film, and it has been engineered so as to take full advantage of all the attributes of the fine grain negative."

"In the past approximately 60 percent of the perfection of the fine grain negative film—utilized so far only in actually photographing a movie—was lost in placing the images on old type positive film. Theatre audiences see the positive. Under the new system, utilizing the fine grain positive film and process for its development, theatre patrons see exactly what the camera on the set sees—and hears."

The reporter suggested that while it seemed to him the technicians believed the larger success of the new development was on the side of the sound, nevertheless it was his belief the opinion of the great public would be the photographic angle was the more important.

Minimizes Glare

The sound department head smiled. "The physics of sound and light follow the same laws of science and nature," he said. "In many respects the things which interfere with one interfere with the other as applied to motion pictures. It is possible, of course, that the public is more interested in photography than it is in sound, that it has been trained in one and not in the other, and to that

extent it may be quicker to detect the advance in photography.

"This new film of finer grain structure and greater resolving power gives a higher degree of clearness of vision and hearing. Pictorially it creates the same effect on the vision as the wearing of a pair of dark glasses on a brilliantly sunlit spot. It gives brilliance, but minimizes the glare.

"As to sound it is clearer than ever before from harshness, from disturbing scratchiness. The voices of the actors speak with soft mellowness from the screen and all accompanying mechanical noises are silent. If the audience no longer be conscious of the reproduced sounds then the advance is distinctly on the side of nature, of naturalness, of illusion. If this prove to be really true then in fact we may be approaching the staging of an ideal motion picture story.

"The new film has the power of giving greater clarity which if it were there by itself would make objects appear hard and sharp and unpleasant, or over-contrasty as defined by the photographer; but the molecular arrangement of the silver granules is so established as to effect a softening of the picture to the proper balance of contrast.

"Never before have the two phenomena been understood and utilized to the degree that exists in this new film.

"In 'Geronimo!' is the forerunner of a change which is bound to bring about a complete revision of all positive films used. The change in printing involves the use of the ultra-violet mercury light, not previously used for printing positive.

"RCA for some time has taken advantage of some of the improvements available from ultra-violet light in its high-fidelity recording. The engineering of this process starts in where RCA left off—and utilized it for a newly evolved fine grain film for picture as well as sound.

"A mercury light is used in this process so as to obtain great rays of light further into the ultra-violet spectrum

than ever has been used heretofore in making sound motion pictures."

Statement of Chief Wilkinson

"From a pictorial standpoint," said James R. Wilkinson, chief of the Paramount Laboratory, "when we speak of a fine grain print, most of us still visualize a quality somewhat similar to the fine grain master positives that are now in general use—low in contrast, with great smoothness and splendid reproduction of detail, but entirely lacking in screen brilliance and rich shadow densities that make for satisfactory visual quality.

"To obtain the desired brilliance and retain the benefits of fine grain it was necessary to go to a stock with inherently higher contrast. An extensive study of print exposure, gamma characteristics and development methods resulted in satisfactory screen quality. The specifications were noted and the plus and minus tolerances defined.

"These established specifications constituted, for the sound group, a definite and predetermined end point fixed by picture requirements.

"It was necessary to work in reverse, backward through the various steps in processing and exposure, to establish the proper sound specifications. This task was undertaken by Dr. Charles Daily in collaboration with the laboratory sensitometric group.

"Numerous tests were processed and measured, frequency characteristics were analyzed, dynamic measurements made, distortion charted and optimum exposure and processing specifications were defined.

"The final gamma was 2.50, as compared with the normal black and white gamma of 2.15."

Moyse on Fine Grain

In an effort further to clarify the work that is taking place in the field of fine grain film, the writer called on Hollis W. Moyse of the DuPont Company. Mr. Moyse, who has been active in fine grain matters, was asked if he would give a brief outline of the steps being taken by those in the industry most interested in fine grain films.

"Why, yes, I'll try," he said. "Efforts to reduce the surface or ground noise in sound-on-film work have occupied the attention of sound engineers for a number of years. The noise originates from the dirt and abrasions which the film picks up in the course of its processing and handling and from the granularity of the silver deposit which makes up the image.

"The first efforts to reduce the effect of such factors were along electrical lines. Light valves were biased electrically so that the average amount of light reaching the negative increased with signal strength.

"With this system, when there is no signal the full effect of the noise reduction applies and the negative has little density. This results in a dark print which projects quietly, since the elec-

trical output to the speakers decreases as the prints get darker. As the signal strength from the microphones increases the average illumination reaching the negative increases and the resulting print becomes lighter and lighter.

"This permits more and more of the undesirable noise to be heard. At full modulation of the light valve there is the same noise output as though no electrical ground noise reduction has been applied.

Definite Limitations

"This variation of background noise with signal strength causes a disturbing effect which is readily recognized. In addition, the noise intermodulates with the signal and detracts from its cleanliness and naturalness. Thus, there are definite limitations to the benefits which can be derived from the present electrical methods of eliminating noise.

"The other approach to reduction of noise, obviously, is to take it out of the film itself. That arising from dirt and abrasions has been reduced to a very low level by careful processing and handling in every stage of the film's use.

"That coming from the granularity of the silver image has not been open to attack until recently, although it has been recognized for some time as a source of considerable importance.

"The restriction on exposure was lifted, partially at least, by the recently developed high intensity mercury arc. With its advent, fine grained films, designed for sound purposes, were made available to the trade.

Photographic Results

"The first noise measurements made on the new type of film indicated a substantial reduction in ground noise, and the listening tests indicated an even greater improvement.

"The advantage over the conventional recording materials was so marked that no time was lost in getting the film into production use for original negatives and dubbing prints. The benefits in the final product from the use of the fine grained stock in the first two of the four sound steps were very appreciable.

"The application of the new type of film has now been carried through the four steps, so that its full benefit is brought to the theater audience.

"In addition to the obvious improvement in sound quality, the use of fine grained film as a release positive has resulted in a substantial improvement in the picture quality. The decrease in graininess of the picture results in a smoothness of texture that is most pleasing, and the general photographic quality is definitely enhanced."

Berndt-Maurer Sync Motor Announced for Cine Special

A new synchronous motor driving unit for the Cine-Kodak Special is announced this month by the Berndt-Maurer Corporation of New York. With it the camera is held to an unvarying 24-frames a second—the standard sound-recording speed—so that the resulting picture is

suited to use with sound-on-film recorded music or narration.

Coupled with this is a recording service with studios in New York, Kansas City and Pasadena, where musical or descriptive sound tracks may be dubbed on to the film.

The new motor unit comprises a special sub-base interposed between the camera and the tripod, and which carries the motor and camera in rigid alignment. A special coupling joins the motor to the camera's driving shaft.

The camera is mounted on this unit by means of a conventional tripod screw, and may be instantly removed for ordinary use. Prices for the recording service are said to compare favorably with the costs of first-class professional titling for silent pictures.

John W. Boyle, A.S.C., Tells of Safe Arrival in Bagdad

Leaving Bagdad on September 18 and reaching Hollywood in a month and a couple of days is word from former President John W. Boyle, A.S.C., who after many months gets a message across to his society. John left New York June 21 as a member of the Trans-Asia expedition with an itinerary that included Paris, through France, Germany, Austria, Czechoslovakia, Roumania, Turkey, and now Bagdad. He had just completed a 500-mile run across the Syrian desert.

From Bagdad it was planned to take in Iran, Afghanistan, India, including the Himalayas, and thence to Bombay, from which point return would be made.

The expedition, which was described in the August issue of this magazine, consists of a specially built trailer designed by General Motors at a cost of \$80,000 and two Chevrolet trucks. There is a two way short wave radio that can sustain conversation for eighty miles. There's a Buick sedan with a special trailer. And there's a crew of six men.

An extensive picturemaking schedule is to be covered by the party, at the head of which is Lawrence C. Thaw, who is aided by his wife. There are cameras to burn. In the lot are two Mitchells, for black and white and bipack, as well as an Akeley and two Eyemos. Then there are four Contax and two Graflex, and at least a half dozen meters, Weston and G. E.

The writer of the message makes a special request that the United States be kept out of the war until he gets back. Maybe that's not a modest request. The writer sends his best wishes in any event.

Willoughby's Printer Sale

Willoughby's, at 110 West Thirty-second street, New York, is conducting a sale on the Willo Miniature Printer and the Willo Metal Printer, \$3.95 and \$4.95 respectively. Then there is the new Law Photo Print Dryer, described as an efficient apparatus for those who demand flat and dry prints in a hurry.

Sound Quality Improvements Obtained With Fine Grain Films

By C. R. DAILY, Ph.D., Paramount Pictures Inc., Hollywood

THE quality of sound recording on film has steadily improved during the last few years because of many developments in all branches of the art, including recording, re-recording, laboratory processing control, re-producing and acoustics.

The relatively course-grained structure of the positive types of film used for variable density recording, however, has basically limited the quality that could be obtained. These films when reproduced have a restricted volume range on account of the film noise which acts like a veil masking low level sounds and restricting the definition and naturalness of the recording.

The modulation of film noise by the recorded signal also produces a swish which is particularly disturbing in the case of piano and other musical recordings.

It was well known that material improvements in sound and picture quality could be obtained from fine grain films. However, until recently light sources have not been available with a sufficiently high intrinsic brilliance to properly expose such films. Likewise, no fine grain films had been available which could be printed to produce a picture of satisfactory quality for theatre reproduction.

With better light sources and new fine grain film stocks becoming available this year, Paramount Pictures undertook the problem of determining the commercial

practicability of using these new light sources and films to produce better pictures and an improved sound quality for theatre use.

Audience in Mind

This release application was selected for consideration because it was felt that only by carrying the improvement of film stocks to the theatre could the audience benefit to the greatest possible extent.

The problems connected with the developing and printing of fine grain films were handled by the Paramount film laboratory, and a brief report of this work, particularly with regard to the picture, are covered in the remarks by J. R. Wilkinson.

Starting at this point, the Sound Department worked out the necessary techniques for making a satisfactory fine grain release sound negative to go with this new fine grain movietone print.

In addition the procedures involved in applying fine grain films for original recordings and dubbing prints were also worked out to complete all steps in the handling of sound.

The following basic problems had to be solved: (a) find a light source for the film recorder which would have eight to ten times the intrinsic brilliance obtained from the coil filament tungsten lamps as normally used; (b) find a suitable fine grain negative stock which could be properly exposed and developed

and which would have sufficiently low noise; (c) test a special negative developer for this fine grain stock, and (d) determine dynamically the optimum processing constants for the new fine grain negative and release print.

These Benefits Result

All of these problems have been solved with the following beneficial results:

1. The sound quality has been materially improved.
2. The film noise has been reduced by 6 to 8 db.
3. The disturbing effects of film noise and modulation noise effects have been reduced to a half or a quarter of their former value as evaluated by the ear.
4. The dynamic distortion of the film print has been reduced.

An improved fine grain picture was obtained on DuPont 222 stock, a visual control gamma of approximately 2.50 being obtained when developed at approximately normal time in the release developer. The same stock was also found suitable for use as a sound negative.

However, since a gamma of 0.50 was obtained when developed at the minimum time in the normal sound negative developer, a special borax sound negative developer was engineered and made available by the laboratory in order to obtain the necessary low gamma of 0.27. Tests indicated that in order properly to expose this negative in the variable density release film recorder, the 9 ampere coil filament tungsten lamps would have to be operated at 10.5 amperes, i.e., at far too high a current for safe use.

The high pressure 85 watt General Electric H3X mercury arc was therefore tested and found to be quite suitable as a light source except that it would require operation at approximately 90 watts with very little margin of safety available in case more exposure were required, and would also require a five to ten minute warming-up time with an equally long cooling time required before restriking in case of a temporary power failure.

Forced Draft Modification

This latter difficulty might lead to expensive production delays. Therefore, a forced draft air-cooled modification of this arc was engineered in order to permit operation at higher wattage.

This development also leads to the following distinct advantage: twice the

TABLE 1

FINE GRAIN VARIABLE DENSITY RELEASE RECORDING PROCESSING CONSTANTS

RELEASE SOUND NEGATIVE:

Film Stock	DuPont 222, fine grain
Recorder Exciting Lamp.....	Air cooled G.E. H3X Arc 140 watts, 125 volts 1.1 ampere; 5-10 pounds air pressure
Developer	Special borax sound negative type
Developing machine	Normal sound negative type
Developing time	Approximately 4' 00"
IIB visual control gamma.....	0.27
Recorded negative density, visual, unbiased	0.38 to .40

MOVIETONE RELEASE SOUND PRINT:

Film stock	DuPont 222, fine grain
Printing Lamp	G.E. H3X Hg arc, 80-100 watts
Developer	Normal positive
Developing time	Approximately 3' 00"
IIB visual control gamma.....	2.5±
Sound print density, visual unbiased	0.65—0.70



Fig. 1.
60/40 cycle intermodulation print used
to determine optimum processing
constants.

exposure of the normal arc was obtainable and the warming-up time was reduced to less than a minute with immediate restriking of the arc possible in case of a power failure.

The optimum sound processing controls for the fine grain negative and print were determined by the intermodulation distortion method (1)* which involves the simultaneous recording of two low frequencies. The print from this test negative is reproduced on a normal theatre type equipment and the amplitude modulation of the lower level signal determined by a suitable analyzer.

In this manner the dynamic distortion of the reproduced print is obtained without the necessity of making correction for such factors as light valve gamma, printer factor, projection factor, etc.

Sensitometric measurements are still used as laboratory processing controls, but the dynamic measurements are depended on to obtain the best quality. The intermodulation measurements indicated that with the optimum negative and print controls the fine grain films had a somewhat lower distortion than could be obtained with the normal positive type emulsions.

A sample of such an intermodulation print is shown in Figure 1. In this case a 60 and 400 cycle signal were recorded, the 400 cycle component being 12 db lower in amplitude than the 60 cycle component. The peak modulation of the light valve was 80 percent.

Table 1 itemizes the operating con-

stants as finally worked out for fine grain release recording.

Dubbing prints from normal positive type film sound negatives can also be improved by the use of fine grain films, the noise being reduced approximately 3 db by comparison with positive type prints.

The procedure worked out for release recording is of course applicable to original recording so that eventually the improvements of fine grain films can be realized in all steps involved in the handling of sound.

Noise and modulated noise effects are materially reduced, the stage and re-recording mixers have considerably more latitude in mixing and the sound prints are of definitely improved quality.

Reference: (1)

"Analysis and Measurement of Distortion in Variable Density Record" by J. G. Frayne and R. R. Scoville, J.S.M. P.E., Vol. XXXII, June, 1939.

Official Statement

Agfa Ansco Corporation of Binghamton, N. Y., must not be confused with the Agfa companies on the British "blacklist."

Agfa Ansco Corporation of Binghamton has no connection with the Agfa companies named. All of Agfa Ansco Corporation's products are manufactured in Binghamton, and the corporation's only export trade is to United States possessions and Canada.

Films must be 16mm. and may be black and white or color. Reduction prints from 35mm. originals will not be accepted. Films may be silent or sound (on film, or scored with records). If scored with records, detailed cue sheets, and if possible the appropriate records, should accompany the film. Records should be shipped in wooden containers.

It is requested that films approximate between 8 and 15 minutes of screen time. Exceptions to this will be made only for films which, in the estimation of the jury, are of such outstanding interest that others must be sacrificed that these can be screened.

Films should be addressed to Eleventh Annual International Show of Amateur Motion Pictures, c/o Duncan MacD. Little, 33 West 67th Street, New York City.

Carrying charges to New York must be prepaid.

No specific method of shipment is stipulated. Each shipper will use his best judgment about this, and about method of packing. (Generally speaking, registered parcel post would seem best.)

As in the past, arrangements have been made for adequate insurance on all films accepted for showing or for consideration. To be eligible for this insurance, the shipper must notify Mr. Little of intention to forward a film (or films) and receive confirmation in return.

Insurance will cover "All Risks" as commonly understood in New York insurance circles, and will apply from time of original shipping by the sender, until final receipt again by him.

Valuation will be as stated by the shipper, but not to exceed 50 cents per foot, 16mm.

While in our custody films will be handled by experienced projectionists only, and every care will be taken, but naturally neither Mr. Little nor his assistants can assume responsibility for unforeseen accidents.

Films will be handled only as necessary for the jury to pass upon them, and if chosen for "scoring"; then for screening at the various presentations of the Eleventh Annual Show.

All films will be returned by prepaid parcel post, within a reasonable time after the shows.

Orange County 8mm Club

The monthly meeting of the Orange County Eight Millimeter Club was held in the auditorium of the Hoover school, President Raymond Harvey presiding.

Contents of the suggestion box were read and discussed. Ivie Stein offered the use of his radio hour for publicity if the club decided to film a scenario. The drawing of door prizes was held next. The two were won by C. C. Benford and Cartwright Smith.

The following pictures were then shown: The door prize film of Mr. Harvey's, Mr. Blanding's vacation trip, Mr. Warner's vacation trip.

MARGARET BENFORD, Secretary

LITTLE SETS APRIL 5 FOR ELEVENTH ANNUAL SHOW

JUST under the wire comes word that the Eleventh Annual International Show of Amateur Motion Pictures will be staged this year by Duncan MacD. Little—just the same as he has staged them for the ten preceding years. This year, the same likewise as each preceding year, the show will be a little bigger and better.

This year 1940, and on Friday, April 5, the show will be held, for the premier, if you choose, at the same place as last year, the Barbizon-Plaza Theatre, New

York, for the benefit of the Peabody Home for Women. On Monday evening, April 8, the show will be repeated at the Newark Art Club, Newark.

Then on Sunday afternoon, April 14, under the auspices of the Department of Visual-Audio Education, the show moves north and east to Dartmouth College, Hanover, N.H.

In the instructions to contributors, among others, are the following rules:

All films must be received in New York not later than March 1, 1940.

John Alton Returns to Hollywood from Abroad



JOHN ALTON, A. S. C., is back in Hollywood, and real glad he is. He's been going away and sooner or later coming home for twelve years. He has made pictures in Germany; in England and in France; in Africa; in Istanbul; in Berlin; in Paris; in the Argentine; then to the United States for a while, and then again to the Argentine, where he intended making one picture and remained to make six.

All of this traveling, hither and yon, has meant considerable languaging, so to speak. Besides English he has acquired principally French in France, German in Germany, and Spanish from pretty much all over—in the Americas from the Rio Grande to Patagonia. Then there are other languages which he does not pretend to handle real fluently.

In his last away from home assignment he went to the Sono Film Company in Buenos Aires, the biggest film company in the Republic, and remained a year and a half.

The next to the last picture was "El Matrero," a free translation of which would be "The Bad Man" or taking into account the distant location on which the exteriors were shot, "The Bad Man of Tucuman." The picture was a sensational success. The dailies raved about it, giving especial credit to the photog-

raphy. In our recent September issue we told how Alton had been credited by Orestes Caviglia, director of the picture, in an interview:

Selected for Italy

"I have had several coworkers in the making of the picture. Especially must I mention for his intrinsic merits John Alton, who has aided me with his ample culture in writing the scenario and for his experienced contribution in the filming of the picture."

The Instituto Cinematografico selected "El Matrero" to be sent to the Venetian Motion Picture Exhibition as an authentic document on gaucho life.

It was in 1927 that Alton started on his wandering when he was sent to Heidelberg with Ernst Lubitch and Cameraman Al Lane to make stock shots for "Old Heidelberg."

Eastman some while prior to this had introduced Panchromatic in the American studios, but until the photographing of "Old Heidelberg" the stock had not been used in Germany. Arrangements were made with the UFA Studio to have the advantages of its laboratory for the development of Panchromatic.

At a special luncheon at the UFA Studio Alton talked about the new Panchromatic stock to the studio's photographic staff, describing its advantages

John Alton, seated in chair following action in "El Matrero," recently highly successful Sono Film of Argentina.

and how it meant a real step ahead in the photographic field.

It may be said here that Alton had had experience in laboratory work before taking up camera work, a routine which some of the more successful cameramen before and since have likewise followed.

After he had returned to the States he was sent to Switzerland by Joe Cohn of MGM to film the Olympics for background shots for a Garbo Picture. That was in 1928. In Switzerland word was cabled to him to report to the late George Hill, former cameraman and now director, as operative cameraman, in Paris. There was work to be done on a foreign legion picture in Algiers and Morocco. Percy Hilburn and Harold J. Marzorati, A. S. C., were along on that trip.

There was work in England and France with Al Lane getting stock shots for a Jackie Coogan picture.

Then Sascha of Vienna called him for one picture. This was followed by several shorts for the Paramount office in Berlin. Curtis Melnitz, president of Berlin Carra United Artists, sent him at the head of an expedition to Istanbul,

or Constantinople, as might be more familiar, and Asia Minor. There were exteriors to be photographed of a super called "The Man Who Killed," by Claude Ferreire of Paris.

Goes to Joinville

Then he took a chief cameraman's place with Robert Kane at the Joinville or Paris studio of Paramount shooting versions in different languages.

In 1932 the director of the Buenos Aires opera met John Alton in Paris. There were talks regarding the motion picture, its background, its present, and its unlimited future. There was no studio in Argentina, and its chief city, Buenos Aires, would rate third in population if in the United States. That's how big it is.

The director did some fast thinking.

Alton was the first cameraman in Buenos Aires. He it was who installed in that city the first motion picture studio in the city and country. It was the Lumiton, which continues one of the most prominent today. Alton installed and built lights and laboratory.

It was late in 1932 when Lumiton made its first talking picture, "Los Tres Berretines." It may be worth noting that during the last year Alton dropped into a small theatre in the country, or outside the city's range, and ran smack into "Los Tres Berretines," the same picture that had been produced under plenty of handicaps in 1932. But really its survival gave him a kick at that.

Because of the financial success of Lumiton Alton was called to install another studio, the Argentina Sono Film, now standing as the No. 1 production unit south of the Rio Grande.

Buenos Aires has over two hundred sound theatres, which with its population of two and a half million is not at all crowded. Several of the pictures made in that country went out under the photographic imprint of Alton. During his work in Argentina he has photographed twenty-five feature length productions as well as co-directed, co-produced and written continuity on others.

Asked as to the length of his stay in the country this time he replied:

"My relations with my last employer in Argentina are most cordial. In fact, I am commissioned to do some equipment buying for the company in this country, and am executing that commission. But the United States looks good to me. Here is where I aim to be."

Regard for Customs

"What is the prospect for American pictures in South America?" was asked.

"That is a question," was the answer. "If the United States is to regain its old foothold on this market more pictures should be made with South American backgrounds and with full regard for South American manners and customs.

"You know how it is in any audience. Just one slip, a slip that ordinarily would be passed by foreigners, will be howled

at in the land of its supposed nativity. In one picture a scene which caused unending ridicule was that wherein a policeman in swell Parisian cop's uniform walked the streets of Buenos Aires.

"It is not an uncommon thing for an American picture to portray its leading man leaving for his coffee plantation in the Argentine. The fact that aside from the Buenos Aires Botanical Gardens there is no coffee grown in the country accounts for the laughs that followed when shown in B. A.

"As I said, B. A. is a city of practically two and a half million persons. The city has five subway lines and others in construction. It has two of the most modern racetracks and one of the finest seaports.

"Argentina has its own motion picture industry, claiming some modern studios and laboratories. The industry has grown from one picture in 1932 to between sixty and eighty in 1940, depending on

the importation of rawstock film and chemicals.

"The average Argentinian is even more of a picture-goer than is his nothern brother in the States. And don't forget that Argentine women are of the best dressed in the world, and their men are not far behind them. Failure to recognize this fact has been responsible for the failure of more than one picture.

"It is a situation that can be remedied. It is not sufficient that a picture be spoken in Spanish. If the picture is not to the taste of the audience or to its mentality it fails just as does an American picture at home. Many dramatic situations have been ruined because the characters talked in different dialects, resulting in great hilarity.

"A picture is made by attention to a multiplicity of little things—or it is correspondingly marred. When dealing in a medium other than your own the little things will multiply. That is inescapable."

UNLIKE 1914 KODAK NOW GETS SUPPLIES AT HOME

THE Eastman Kodak Company's manufacturing operations in Rochester are not endangered by any shortage of materials on account of the war.

Information posted on bulletin boards in the Eastman plants and office in that city showed that important materials which came largely from Europe in 1914 are now produced in the United States.

"When war broke out in 1914," the bulletin for employees explained, "the company had to make frantic efforts to accumulate materials from abroad to sustain our manufacturing operations in Rochester. At that time, adequate supplies of the following important materials were available only by importation from Europe: Paper to be sensitized, mostly from Germany; gelatin, mostly from Germany; sensitizing dyes for emulsions, from Germany; blanc fixe for surfacing paper, mostly from Germany; glass for plates, from Belgium and England; glass for lenses, mostly from Germany; certain developing agents, mostly from Germany; synthetic organic chemicals, from Germany.

Persons working in departments where these materials are used will realize how serious any lack of them would be.

"The war in 1939 finds that situation completely changed: Kodak Park now makes all of its own paper for sensitizing. The gelatin we use in Rochester is now entirely supplied by Kodak Park and the Eastman Gelatine Corporation, Peabody, Mass. The Kodak Research Laboratories now make the sensitizing dyes we need.

Blanc fixe is now made at Kodak Park entirely from American materials. Film has very largely superseded glass since 1914 for X-ray, portrait and commercial photography, but all the glass needed

can now be obtained domestically. Increasing amounts of glass for lenses are being made in the United States and we have on hand a good stock of such foreign optical glass as we do require.

Our requirements for photographic developing agents are now supplied entirely by Kodak Park and the Tennessee Eastman Corporation. Kodak Park produces any synthetic organic chemicals we need and also sells organic chemicals to universities and other laboratories.

"Therefore,—the management is able to inform the employees that our Rochester operations are not endangered by any shortage of materials that can be foreseen as a result of the war."

New Books

16mm. Sound Recording for the Amateur. By Carroll A. Nye, Jr., and Samuel T. Golow. Fomo Publishing Company, Canton, Ohio. 58 pp. 13 sketches. \$1.50.

Perhaps the best description of this book is to quote the foreword from A. Shapiro, chief engineer of the Ampro Corporation. Mr. Shapiro says:

"The authors of this valuable treatise have succeeded admirably in clarifying what is generally regarded as an abstruse subject so that the amateur, without professional training, can readily grasp both the principles and operation involved in sound pictures.

"Through the use of simple language and easily understandable drawings, the theory and practice of sound pictures are set forth so that any amateur can easily understand the ideas and put them into practice. This treatise should do much to popularize active participation in sound recording and reproduction by the amateur."

Making Modern Matte-Shots

By Byron Haskin,
A.S.C.

NO branch of modern special-effects cinematography has received less attention of late in technical discussions than the matte-shot.

While it is perhaps only natural that such relatively newer and more spectacular techniques as the projected-background process and the use of the optical printer should monopolize the discussion spotlight to some extent, the matte-shot has an important place in modern special effects camerawork.

It contributes importantly to today's task of minimizing production costs while at the same time enhancing production values.

The modern matte-shot is an outgrowth of the old time "glass shot." In this, it will be remembered, a large pane of glass was suspended several feet in front of the camera. On it was painted whatever additions of structure or background might be desired to complete the scene, with clear areas through which the actual action might be photographed.

The painting and the actual set were carefully aligned and blended into each other, so that the result was a composite scene combining painted images

*Head of Department of Special Effects
Warner Brothers-First National Studios*

In Two Articles

ARTICLE I

with actual scenes and live action. From the purely photographic viewpoint this system worked excellently. But from the practical viewpoint, it had two serious disadvantages. It delayed production, and it restricted the technical and artistic freedom of both the director and the cinematographer.

Faster and Better

No matter how expert were your glass-shot technicians, time was involved in making the painting and aligning it with camera and set. Once aligned, the position of the camera could not be changed without necessitating changes

Left, mounting for matte paintings. Movable, by remote control, in any direction. Right, combined camera and test-developing room. Note rigid camera mount (left) and sink for developing test negative (right).

in the painting, or even an entirely new painting.

To offset these practical drawbacks, the glass-shot evolved into the matte-shot. Instead of photographing both elements of the shot at once, each is now photographed separately, with complementary areas matted out. Both elements are photographed directly on the same negative film, though in separate exposures.

This virtually eliminates the difficulties referred to. It allows the live action—which involves the heaviest overhead—to be photographed more quickly, and with almost completely normal freedom as to camera-angles, since the complementary matte-paintings are made to fit the scene as actually shot, rather than to some rigid, prearranged plan.

Since the matte-paintings are both made and photographed separately, both the painter and the cameraman can do their work with greater precision, since they are not working under the pressure of delaying production on the set. The result is better, more convincing shots on the screen, and a wider application of the process.

As a rule, the need for a matte-shot





Evolution of a matte-shot. Bottom, actual construction on the set. Center, frame enlargement from test negative, showing mattes portion. Top, completed matte-shot combining actual set and painted right wall and ceiling.

becomes evident in the early, interdepartmental conferences on the script. Certain scenes—as, for instance, interior long-shots in which a ceiling is needed to complete the impression of a set—obviously call for matte-shots.

Others, it will be found, could possibly be accomplished by conventional means, but can be achieved more convincingly or more economically by use of the matte-shot technique.

Minimize Set-Construction

Once this method has been determined upon, all concerned coordinate their plans on the basis of making a matte-shot. Actual set construction, for instance, is held to the minimum necessary to permit free movement of the players; the rest is left to the matte painter.

Sometimes this actual construction is extremely little; in one production, the script of which called for a scene showing a flag flying from a castle tower, all that was actually built was the flagpole and flag. The tower and its background were provided by the matte painting!

When the actual shot is made, a member of the special-effects staff is on the set to see to the matting. Since a soft blend is usually preferable, the matte is placed relatively close to the lens, to produce this effect.

The camera is of course rigidly tied down, to eliminate any possibility of movement, and moving-camera shots are impractical.

Since, however, the painting which is to complete the scene is not only photographed but actually painted *after* the action is photographed, both the director and the director of photography enjoy reasonable freedom in choosing and changing their camera angles as may be best for action or composition.

This means that on the set there is but a minimum of delay for making and adjusting the matte, tying down the camera and exposing the vitally necessary test footage which guides the making and photographing of the matte painting. From one hundred and fifty to two hundred and fifty feet of test footage is exposed for most matte-shots.

When the action has been photographed, the negative is sent, undeveloped, to the special effects department, where it is held until needed.

Test Enlargements Guide

Then a short length of the test footage is developed, and a still enlargement is made, to guide the matte artist in making his painting. To minimize the misleading effects of negative graininess, we at Warner Brothers' usually make this enlargement not from one,

Bottom, set as actually built. Center, test negative showing matte-line. Top, the completed matte-shot.

but from several frames of film, so that the individual grain images tend to overlap and eliminate the effect of grain.

At times a dozen or more frames may be used to produce a single enlargement. This technique, of course, would be worthless if motion were involved; but fortunately the matte-painter need concern himself only with tonal values and form.

But in gaining this effect of minimized grain, definition is necessarily sacrificed to some extent. Projection of the test negative and inspection through a moviola and other magnifying devices help to offset this: but increased definition in the enlarged positive would be a definite asset.

There are a number of different methods of assuring accurate coordination between the original shot and the matte painting. Paul Detlefsen, who has been doing the matte-paintings for our department at Warner Brothers' for a number of years, uses a special still projector by which a frame of the test negative may be projected directly upon the matte-card in his easel.

Using this projected negative image as a guide, he proceeds to lay out his painting. It gives him an accurate guide as to alignment, detail and physical form; the enlarged multi-frame positive furnishes a guide to tonal values.

There is naturally a very delicate balance to be struck in making a matte painting: for the best effect, neither too much detail nor too little should be used, and since no two matte-shots present identical problems, this is a matter which can be guided only by experience.

Special Camera Set-Up

For photographing the paintings, we have a special camera installation. Since the critical factor is absolute alignment of the two components of the composite shot, which can best be determined by photographic tests, test-developing dark-rooms are integral parts of the installation.

Each of our cameras is mounted on a rigid, concrete foundation-pillar, at the top of which is fitted a fixed head adapting it to the type of camera in use. This pedestal is inclosed in a generously proportioned booth which is equipped with complete darkroom facilities. The camera is trained on the painting through an unglazed window which may be closed—completely light-tight—by a sliding port.

Thus a test can be photographed, the exposed footage removed from the magazine without disturbing the camera, and the film developed for inspection with a minimum of trouble and delay.

This is important, for perfect re-

(Continued on Page 526)



THE CAMERA DEMANDS

Two infallible features—

FINE LENSES

and

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PLUS X

Panchromatic Negative

With this combination

Today's

Smart photographer

is establishing new and

startling standards

of beauty and artistry

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—— DISTRIBUTORS ——

Pacific Laboratories Announce Complete 16mm. Service

THE manufacturers of this country have recognized the tremendous advertising value of industrial motion pictures, and large companies such as United States Steel, General Motors, Caterpillar Tractor, Standard Oil, and many others with similar financial backgrounds have produced pictures costing \$100,000 and more.

To place this wonderful advertising medium within the reach of companies with smaller budgets, methods had to be found to cut production costs. Smaller producing companies entered the field and pictures ranging in price from two to five thousand dollars were produced on 16mm. film.

With the advent of the talking motion pictures, complications arose for the 16mm. producer. Equipment for sound recording, sound projectors and

many other instruments were not available in this size. Equipment manufacturers realizing the possibilities in the 16mm. field set to work and today sound recorders, sound cameras, and every other known device is manufactured to fit this size film.

Film manufacturers who furnish the motion picture industry with special emulsion film for general studio work, for difficult shots, for background and general exterior, supply this same film today in the 16mm. size.

To produce a professional picture using these different types of sensitive

film the photographer must have the cooperation of a laboratory where definite standards of processing can be obtained.

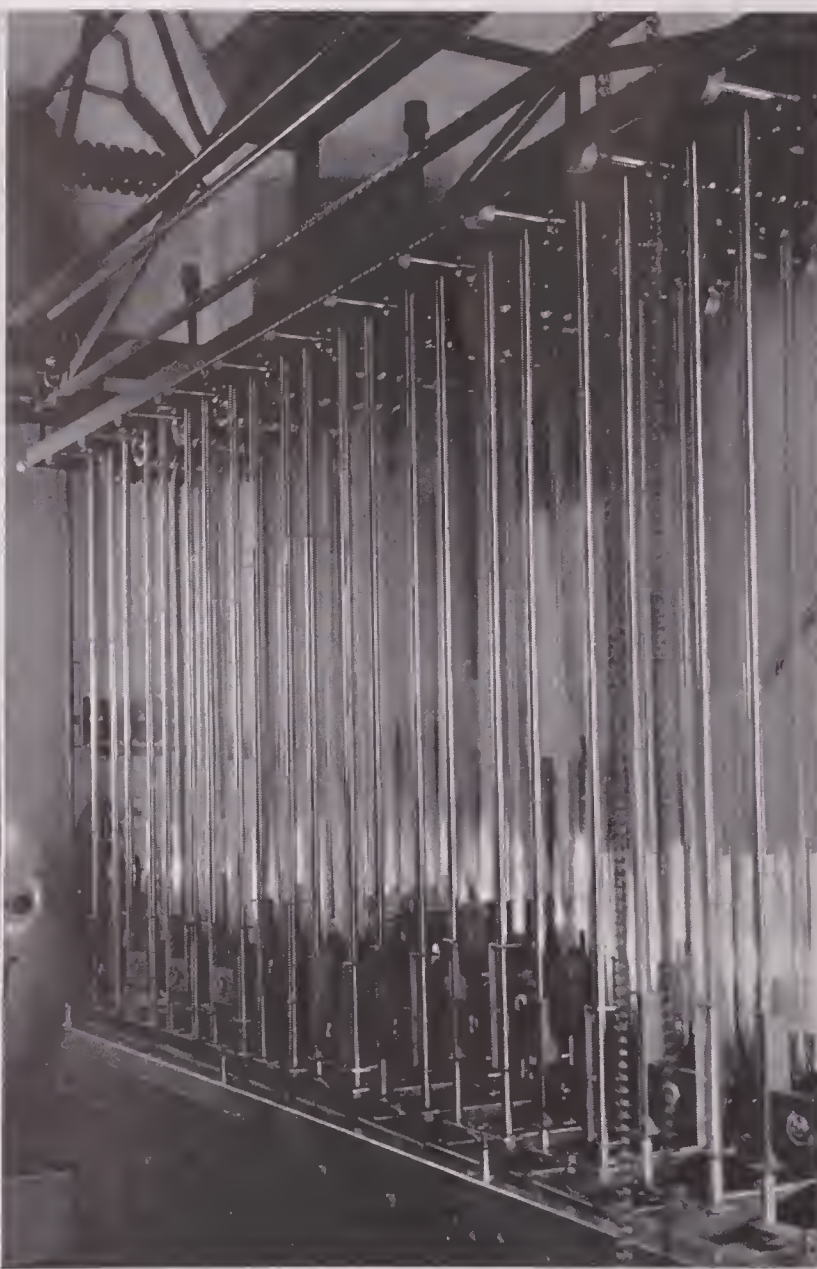
The larger producers in the theatrical field have their own laboratory equipment and those who do not can rely on competent service companies with complete 35mm. equipment. The producers in the 16mm. field have long felt the need of a service company with coordinated departments to handle the technical work involved in their productions.

Pacific Laboratories, on the fourth floor of the Bekins Storage Building, 1027 N. Highland Avenue, Hollywood, has just recently completed the construction and equipping of a plant to render service exclusively on 16mm. film. It

(Continued on Page 517)

Left, Sound Recording Equipment of Pacific Laboratories

Pacific Laboratories' developing machine





"Dear Sir:

A few years from now...

... the folks are going to cherish the pictures they take of me today!"

You're right... providing those pictures are *good* pictures! And one way to insure good pictures is to use Agfa's 16mm. Triple S Superpan Reversible Film.

For better indoor shots and for

slow-motion movies under difficult light conditions, Triple S Superpan has the necessary extreme speed, together with a remarkably fine grain, fully panchromatic color sensitivity and a well-balanced contrast. The final screen results will be exceptional for their depth and clarity.

Ask your dealer today for Agfa Triple S Superpan Reversible. He has it in 100-foot rolls at only \$6.00 and in 50-foot rolls at only \$3.25. These prices include processing and return postage. **Made by Agfa Ansco Corporation in Binghamton, New York, U. S. A.**

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**16 MM. TRIPLE S
SUPERPAN FILM**



STUDYING PHOTOELECTRIC EXPOSURE METERING

By CAPTAIN DON NORWOOD, U.S.A., RETIRED

THE use of photoelectric exposure meters is apparently becoming quite general among professional and amateur cinematographers as well as still photographers. For this reason it seems to be in order to make a study of some of the characteristics of the device to the end that better understanding will aid efficient use.

It seems that a photoelectric exposure meter pointed at a photographic subject just as a camera is, and measuring the same reflected light that the camera is going to impose on the sensitized film, should be an ideal instrument.

It seems that the results obtained from it should be nearly perfect. In actual practice, however, it is found that such is not always the case.

For a number of years my principal duty in the Air Corps was that of being in charge of instruction at an Army Air Corps Photographic School. During that period I observed the efforts of some

hundreds of students in their determination of negative exposures by various means, including the use of photoelectric exposure meters.

Widely Varying Results

It was my experience that groups of students, after receiving careful instruction in the use of the meter, when sent out to photograph a given subject would later display widely varying results in negative densities. This condition persisted even after the students had become proficient photographers.

Conversations with many professional and amateur cinematographers and photographers served to confirm the observation that quite widely varying results may be obtained even with careful use of the conventional type of photoelectric exposure meter.

It was further determined that the conditions herein described seemed to be aggravated in the case of indoor photog-

raphy with its somewhat greater contrasts. Likewise natural color film, such as Kodachrome with its inherently high contrast and narrow exposure latitude, presented quite a problem.

In the school these conditions were so marked that it seemed desirable to make a special study of the conditions surrounding determination of exposure by the use of the photoelectric exposure meter. Some of the results of this study are presented here.

Let us consider the exposure problems presented in some typical scenes, and see how the meter functions in each case. Figures 1, 2, 3, and 4 represent such scenes. Consider Figures 1, 2, 3, and 4 not as pictures to be examined for flaws, but rather as representative scenes to be photographed.

Meter Readings Affected

Scene 1 consists of a figure of a girl wearing a light dress, against a dark background. Illumination is by sunlight.

It has been observed that the most general method of using the meter is that known as the "Average Brightness Method." With this method the meter user measures the average brightness of the scene from a point near the camera position.

This is modified by some who move to a position nearer half-way between camera and subject to offset the effect of the very wide "acceptance angle" of the meter as compared with the "angle of view" of the camera.

It must be appreciated that for all practical purposes the meter is affected only by the bright portions of a scene. The dark portions have such small relative effect that their influence may be largely discounted.

In Scene 1 only a relatively small portion of the whole scene is composed of bright areas. A large portion is composed of dark areas. Consequently a meter reading for this scene will have a low value, and considerable exposure will be indicated.

Enters Second Girl

Now let us suppose that into this scene walks another girl, similar in size and dress to the original girl subject, and stands beside the first girl. Another meter reading is taken. With the advent of the second girl the bright portion of the scene has been about doubled in area. The additional reflected illumination acting on the meter will cause a reading roughly double the value of the original reading.

Let two more girls, similar in size and



Figure 1

dress to the first two, enter the scene and stand beside the first two. Now the bright area has been again doubled, consequently the meter reading will again be doubled.

Continue the process by adding four more similar figures to the scene which already has four. We find our bright area again doubled, likewise the meter reading has again doubled. We now have a meter-reading which is eight times that from the original scene. Consequently we have an exposure indicated which is one-eighth that indicated for the original scene.

Three f stops difference indicated. And yet the brightest highlight has not become more intense, nor the darkest shadow any lighter. An exposure which would be correct for the original set-up would be just as correct for the one last described. It is discovered that relative size of bright and dark areas in a scene have a most marked effect on the readings. This effect may be very misleading, as just shown.

Meter Follows Figures

Consider Scene 1 again. If we were to keep on adding brightly dressed figures until the scene were full of them the meter reading would keep right on increasing as shown and the indicated exposure decreasing.

By the time we had, say, 32 bright figures in the scene we would get about the equivalent of Scene 2. In Scene 2 the brightness is from the large area of light background.

This scene, which is illuminated by sunlight of the same intensity as in Scene 1, has the brightest highlight of about the same value as in Scene 1 and the darkest shadow also of about the same value as in Scene 1.

Let us digress here to say that if an exposure is adjusted so that both the darkest shadow and the brightest highlight are included in the exposure latitude of a film, it follows that intermediate values are bound to be properly recorded also, and the exposure as a whole is correct.

Now with Scenes 1 and 2 having iden-

tical brightest highlight values, and identical darkest shadow values, it follows that the same exposure would have been proper for both scenes.

The meter as we have seen gave us widely divergent indicated exposures for the two scenes. This was caused by the fact that this type of meter is affected so strongly by the relative sizes of light and dark areas in the scene, a factor which is of no importance whatsoever in the correct determination of exposure.

How Position of Meter Affects Readings

Now let us consider Figure 4, which is another representation of the scene in Figure 1. Superimposed on this scene we find several concentric circles. Circle A incloses the area which would be effective in reflecting light to an exposure meter used at one half the distance from camera to subject.

If the operator moves forward to a position three quarter of distance from camera to subject the area effective on the meter will be that inclosed by Circle B. Similarly for seven eighths of the distance see Circle C, for fifteen sixteenths; Circle D, for thirty-one thirty seconds, Circle E.

What will be the meter readings at these various station points? In A we find a relatively large dark area which has very little influence on the meter. The bright area is relatively small, so the meter reading will be low.

In B we find the dark area, which had practically no effect on the meter anyway, has suffered a reduction in relative area. The bright portion occupies relatively twice as much area as in A, consequently the meter reading will be approximately twice as great.

In C and D and E we get an extension of the same effect. In each case the bright area has become relatively greater in size, with a corresponding increase in the meter reading. The variation in the meter readings from A to E will be relatively large.

It will be seen how greatly meter readings are influenced by the position chosen by the individual photographer when taking a reading on the scene. It

is evident that all of these readings cannot be correct. Some of them may depart rather widely from the figure which will give a correct exposure.

How Aiming of Meter Affects Readings

So far we have seen that readings from a reflection type photoelectric exposure meter are greatly influenced by the relative size of light and dark areas in the scene. The readings are further greatly influenced by the position chosen by the individual operator. The variations consequent on the influences considered may easily be of disturbing magnitude.

Figure 3 represents another scene in which the individual habits of the meter user may have quite a marked effect on results. Circle A represents the area included by one meter user. From the same position the second user will be found to point his meter down slightly, so that his meter "sees" the area in Circle B.

Similarly another user's meter "sees" the area in Circle C, because his meter is tilted upward slightly. A slight angular turn to right or left will give similar circles at the sides. Each of these circles inclose areas containing substantially different proportions of light and dark areas.

Thus, since the meter is sensitive to relative proportions of light and dark areas, it will be evident that a number of different readings may be had from the same scene. A small angular change in attitude of meter may make a marked change in the reading.

Multiple Reading Method

Some meter manufacturers advise the taking of a reading on the brightest highlight and the darkest shadow in a scene. This is doubtless the most accurate way in which the meter may be used. However it involves several problems. First the natural reluctance of the average photographer to take more than one reading on a scene must be overcome.

Next the problem of determining just where is the brightest significant high

(Continued on Page 524)



Figure 2



Figure 3

HISTORY REPEATED

PLUS-X, Super-XX, and Background-X have established themselves firmly as the favorite raw films of the industry. In doing so they have repeated the history of Eastman films of other days. And they have done it through the same means: unmatched photographic quality, completely trustworthy uniformity. Eastman Kodak Company, Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

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PLUS-X

for general studio use

SUPER-XX

for all difficult shots

BACKGROUND-X

for backgrounds and general exterior work



BRINGING HAWAII HOME

By ORMAL I. SPRUNGMAN

16mm. Kodachrome frame enlargements by Sprungman from Dan Billman Jr.'s "Hawaiian Honeymoon."

Titles filmed by Park Cine.

Enlarged from 16mm. color movie frame.

Waikiki's blue waters photograph best on clear days, turning silvery under clouded skies. This 16mm. Kodachrome frame enlargement by Sprungman from Dan Billman, Jr.'s, "Hawaiian Honeymoon," was taken from an outrigger canoe.

FILMING in your own backyard has its virtues. For instance, you don't have to worry about customs, tropical packing or irate natives. But nobody seems to care much about the scenery around Podunkville when Pago Pago, Haiti and Darkest Africa start calling.

Dan Billman, Jr., Minneapolis amateur cinematographer who shoots his films especially for public screenings, realized this. He knows the "escape" which travelogs offer to stay-at-homes, and he knows what constitutes good footage.

Hardly an hour ago Dan finished telling a local radio audience about the difficulties he encountered in filming his current 16mm. feature, "Black Cousins" (first reviewed in the May 1939 American Cinematographer).

He revealed how photographing through broken clouds produced his striking airplane footage, but he also told how police were called in with horse whips to drive off Haitian marketplace natives who had seized and attempted to run away with Billman's photographic equipment.

Right at this very moment Dan is probably laying out his cine plans for a coming winter excursion down among

the tan-skinned Samoans, for it's the lure of far-off places, he claims, which adds sparkle to cruise photography and inspires a person to turn out the very best stuff he knows how.

Six Weeks Filming

Just one year before "Black Cousins" was born Dan hied himself off to Hawaii with his bride to produce his first full length color feature, "Hawaiian Honeymoon." Six weeks were required to film it. Fully edited and titled and synchronized with sound and music, the 1200-footer has been seen and heard by thousands of persons who proclaim it one of the finest ever to come out of these parts.

In fact, an abbreviated version of this feature was prepared and given a prominent spot last spring on the program of the Minneapolis Cine Club's Second Annual Movie Party.

It was along about the first few days of January 1938 that Dan phoned me he was Hawaii-bound. He wanted filming advice. I knew nothing about the islands, except that they were claimed to be a photographer's Eden. Admittedly as big a boob as the next fellow, I offered these suggestions, which might apply equally well for Egypt, India or the Antarctic:

Film the boat's departure. Get shots from the pier looking up at the boat, and shots from the boat looking down at the crowd. Catch a couple toots of the steamer whistle. Film the deck games, the swimming pool, and catch candid closeups of interesting fellow passengers. Get the captain at work.

Take a few shots over the railing, but step well back on the deck to frame each shot, including a part of the rigging in the foreground to lend depth to distant scenes. Try for similar shots at sundown against the western sky.

Because of heavy fog, the sailing from Los Angeles, originally scheduled for 10 p.m., was delayed twelve hours. This was advantageous, for the daylight departure permitted color filming of many of the introductory scenes mentioned above. In addition, Billman sequenced the tugboats and other liners following in the wake.

Sunsets Fair

He clicked over-the-bow shots of the frothy sea and gulls squawking and dipping to water. With deck tennis and swimming, the five days at sea pass rapidly, and soon Aloha Tower looms into view. Native boys paddle out to dive for coins.

Because of the rainy season, his sunsets were fair, but his general scene exposure was good, despite the fact that he had exposed very little Kodachrome before leaving on this jaunt.

Although he carried an exposure meter, he shamefully admitted that he toted no tripod and no telephoto. Both were included to advantage, however, in last winter's trip to the West Indies.

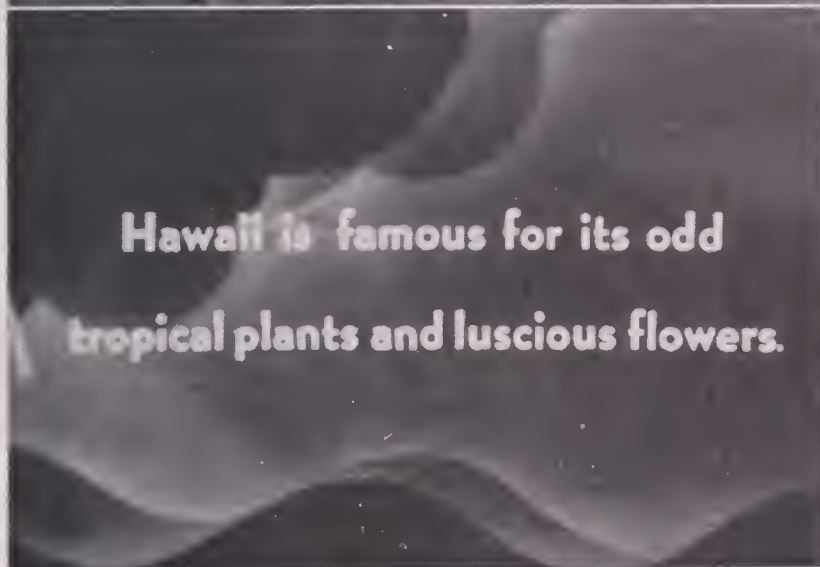
I further suggested that when he arrived on the island that he steer clear of conducted tours, that he purposely shoot the sort of thing which most average tourists might neglect.

Since he was using Kodachrome exclusively, why not try for closeups of

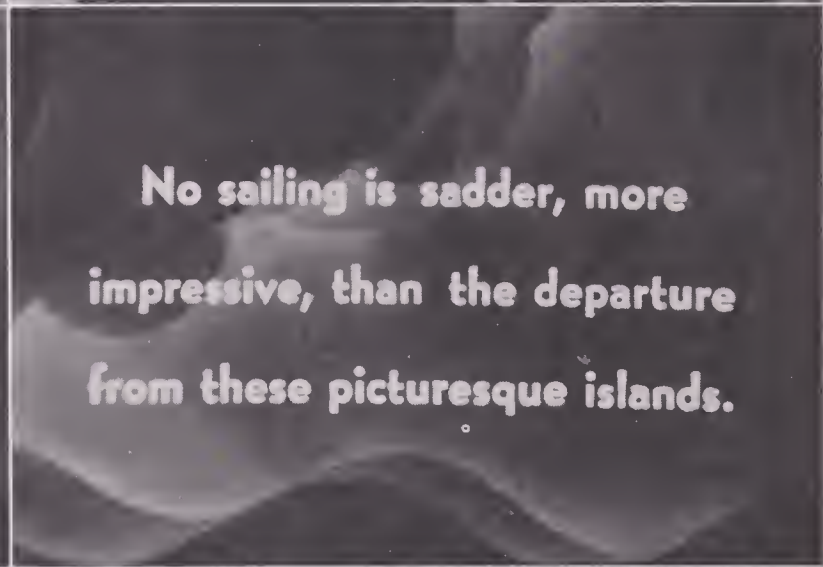
The graceful hula unfolds the legends of early Hawaii.




Hawaii is famous for its odd tropical plants and luscious flowers.




No sailing is sadder, more impressive, than the departure from these picturesque islands.





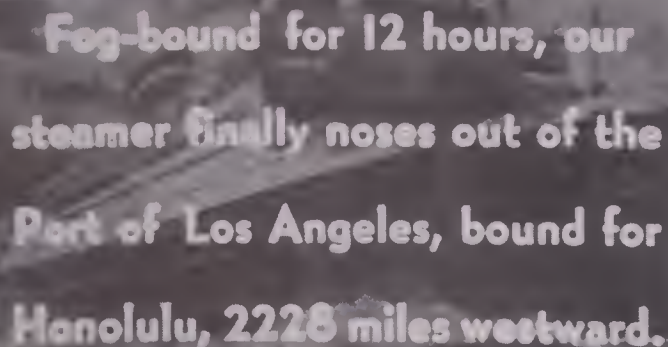
HAWAIIAN HONEYMOON



Filmed in Color
by
Dan and LaDonna Billman



Edited and Titled
by
Ormal J. Sprungman



Fog-bound for 12 hours, our
steamer finally noses out of the
Port of Los Angeles, bound for
Honolulu, 2228 miles westward.

a few of Hawaii's varied blooms, the hibiscus, for instance, and other flowers with color?

Then there were the natives, their dances, waving palms silhouetted against western skies, the scenic spots along the coastal highway, intimate closeups of native life inland.

After the Billmans established themselves on the island they visited the local tourist bureau in quest of tips on picture possibilities. They learned that the Eastman Kodak store at Honolulu actually furnished a map of the island of Oahu with such filming spots marked.

Hire Car and Chauffeur

In addition, the pair rented a car at a cost of \$35 a week, hired a native Hawaiian as chauffeur and guide, and saw the out-of-the-way places quickly and efficiently, following spurs leading inland from the 100-mile stretch of coastal highway.

If you want to taste luxury and high life, stop at one of the hotels, but if you like informality Dan recommends renting an apartment along the beach, with the surf at your front door. Such apartments cost around \$20 to \$25 a week for short stops.

Preceding his street scene sequence, Billman took an angle shot of a Honolulu sign, followed with a closeup of a Hawaii auto license plate, simply to establish the locale. Too many photographers make their city filming a comprehensive architectural study.

Dan found out by experience that audiences are most interested in human activities than inanimate things, unless attractive or unusual. He had one fault in his municipal filming—a fault which he has since corrected. He panned.

Filming Honolulu streets from a lofty perch atop Aloha Tower, he yielded to the same temptation which has plagued many moviemakers by swinging his camera to encompass a goodly gob of the horizon.

The surf was tied up with coastal travel, and by close-upping colorful sign posts, he saved himself the bother of later titling. At one location, he filmed the statue of a Japanese fisherman's strange god at whose feet coins were tossed in the old days.

Weather Bad—Footage Good

A little farther along lay the Blowhole, where salt water spouted geyserlike out of a hole in shoreline rock. The rocks were slippery from the endless spray. In fact, only a week before, a sailor ventured too close and fell to his death. His body had never been found.

David's hut at Punaluu furnished plenty of local color. Trying to revive the ancient Hawaiian life, David girds himself with a loin cloth, digs in the field, grows his taro, and demonstrates the simplicity of his grass hut existence. It was 4 p.m. and raining when the Billmans focused their camera on David's hut, but they came away with some excellent color footage at f.1.9, despite bad weather.

At Kapiolani Park, against a natural backdrop of palms and huts, more than a score of native girls stage a free hula demonstration which literally devours countless dozens of rolls of Kodachrome. In filming the performance, Dan squatted low on the ground in front of the spectators, and, by shooting up at an angle and watching backgrounds, he was able to eliminate completely any sign of the audience of some 500 tourists.

By alternating his long shots with closeups of smiling faces, expressive hands and dancing bare feet, he gave the impression that the hula was staged especially for his camera.

The same native lad who poses for the pineapple ads next shinned up a tree, fetched down a cocoanut, debarked it and proceeded to drink the juice.

Tasted Like Wall Paper Cleaner

Then he sat down on the ground and began mashing taro roots into a putty-like poi which Billman admitted looked and tasted like wall paper cleaner. Such closeups, sans curious onlookers, added much to his travel film.

Hawaiian flower closeups were taken with the one-inch lens at two feet, the closest working distance, and some of

the huge petals actually filled the screen. Unfortunately, the night-blooming cereus was out of season, but the "pot of gold" which pops into bloom was filmed in action simply by following a closeup of a closed flower with a quick closeup of an open one occupying the same area in the view finder.

When the sequence is projected on the screen, the popping effect seems very natural. And then there were the hibiscus, the water lilies of Mauna Loa Gardens and the groves of Papai trees.

One of the most spectacular sights, according to Billman, is the Nuani Pali, the 1200-foot cliff of sheer rock over which the great King Kamehameha in 1795 drove thousands of warriors. Legend has it that if this drive is made by car at midnight, the sound you hear is not the howl of wind, but rather the tormented screams of dying men.

The islands are famous for their strikingly colorful sunsets viewed through the Royal Palms of Kapiolani Park. Billman brought back some of these gorgeous sunsets on celluloid, filming not only the sinking orb itself and the Kodachrome-dyed clouds, but also the afterglow in the sky overhead.

Risk Camera

In every shot some object was silhouetted in the foreground to aid composition. The usual exposure on his sundown shots was f.5.6, while the sun could still be seen, opening up to f.3.5 after the sun dropped below the horizon.

Perhaps the most exciting footage in "Hawaiian Honeymoon" resulted when the Billmans chartered an outrigger canoe, hired four strong-armed native paddlers, and rode out into the Waikiki surf—despite warnings that many once-active cameras now lie mossy and dormant on the coral reefs below.

Swathing his movie outfit in bath towels, Billman filmed the lightning speed ride up the wavy crests, with surf riders and outriggers passing on each side. Each time the canoe would fill to the gunwales with water, and each trip back meant wiping the lens and camera free of spray.

Since Waikiki faces west, Billman advises that the afternoon is perhaps the best time for shooting outrigger action movies, but the day must be clear for Kodachrome filming. Clouds seem to destroy the true beauty of Waikiki's blue water.

The noon-day sailing for home provided a finale sadder and more impressive than most departures from picturesque ports. The strains of "Aloha Oe," played at the pier by the Royal Hawaiian band, fade away in the distance as the ship rounds Diamond Head. A sunset at sea, framed through the rigging with a gull winging about in the scene, closes the picture.

Editing 1500 feet of Kodachrome down to 1200 feet with titles happened to be the job of the janitor of this piece. First, those scenes a bit off in exposure were eliminated, then the lengthier footage was cut to fit the importance of the subject.

100 Feet of Titles

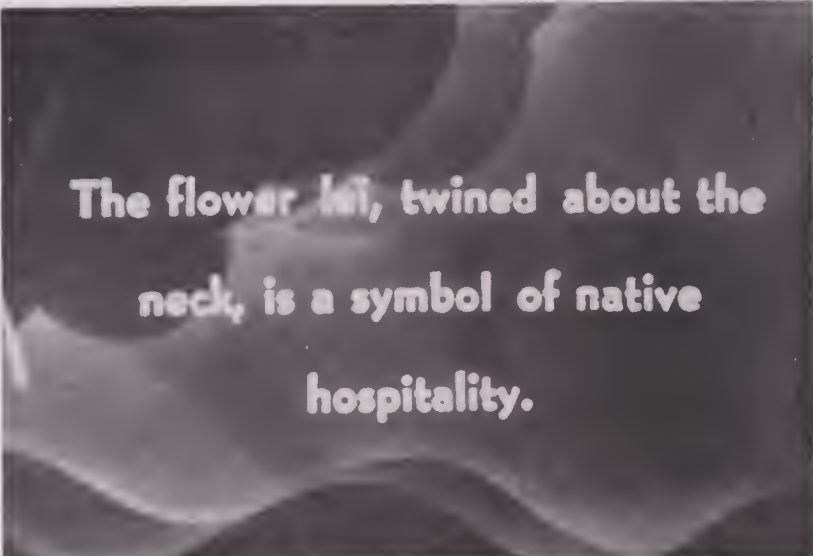
Approximately 100 feet of double exposed titles, with appropriate fades, dissolves and wipes were included, but to give the final touch the 45-minute screening was synchronized with music and sound effects.

Such disc-recorded sounds as whistles blowing, gulls squawking, airplanes roaring and birds singing were dubbed in at appropriate places. Island recordings of hula music and the "Aloha Oe" of the Royal Hawaiian band were purchased in Honolulu and used in scoring the film.


Employing two RCA record players and an RCA amplifier-loud speaker unit with microphone, Billman was able to give a celluloid presentation as effective as a sound-on-film feature.

Among suitable musical selections for his Hawaiian film accompaniment were "Paradise" (introductory scenes), "My Little Grass Shack" (David's hut), "Tomi Tomi" and "Cock-eyed Mayor" (hula scenes), "Little Brown Gal" (tree-climbing and poi-making), "Sweet Leilani" (flowers), "Heeia" and "Kukuna Oka La" (surf riding), "Hawaiian Paradise" (sunsets) and "Aloha Oe" (departure for home).

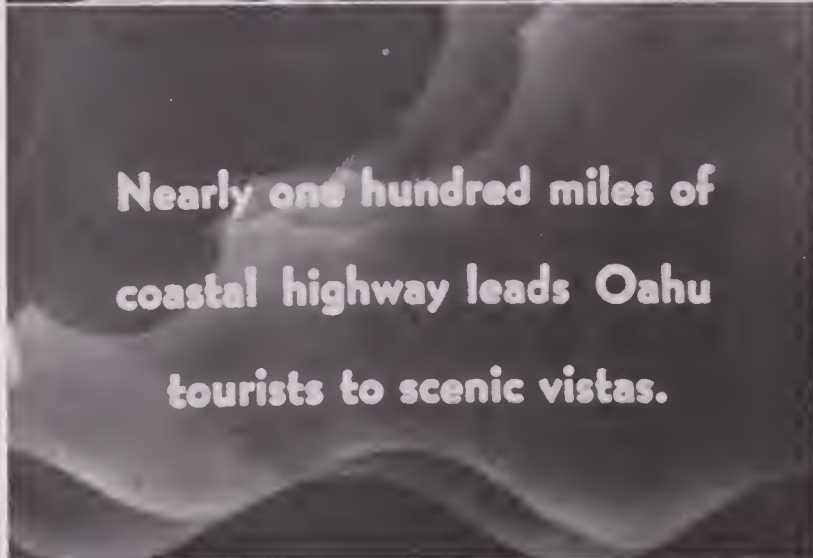
If Dan Billman ever returns to Hawaii again—and they say



The flower lei, twined about the neck, is a symbol of native hospitality.



Nearly one hundred miles of coastal highway leads Oahu tourists to scenic vistas.



that most folks usually do return not once but many time—he claims he would visit and film the other islands in the chain, shooting some stuff from the air if permitted.

He says he would include sidelights on sugar cane and pineapples, close-

upping the native fishermen, island wildlife and the odd forms of marine activity.

Briefly, if you want your film to appeal to audiences with diverse interests, shoot the sidelights which lie off beaten paths.

EASTMAN ISSUING TWO CLASSY CAMERA MODELS

FEATURING automatic film-wind control and a body shutter release which retracts automatically when the camera is closed, two new fine-camera models—the Kodak Monitors Six-16 and Six-20—are announced by the Eastman Kodak Company, Rochester, to be ready in November.

Designed to appeal to critical purchasers, the Kodak Monitors are wholly made in the Kodak Rochester factories. Their special features include strong aluminum alloy bodies and backs; a new system of bed braces which provides 10-point support to maintain the lens and shutter rigidly in accurate position; mechanism to prevent double exposures; both eye-level and waist-level finders; a monitor turret with automatic exposure counter, field depth scale, and range-finder clip, and a single push button to control both opening and closing.

There are four Kodak Monitor models. With 5-speed Kodamatic shutter and Kodak Anastigmat f.4.5 lens, the Six-20 Kodak Monitor retails at \$30; the Six-16 at \$35. Both these models are covered in tooled, black morocco-grain Kodadur. The other two models, with the outstanding new 9-speed Kodak Supermatic shutter and Kodak Anastigmat Special f.4.5 lens, retail at \$42.50 for the Six-20 and \$48.50 for the Six-16.

Both these have a black pin seal grain genuine leather covering and highly polished chrome bed braces with black enamel inlay.

The film-wind control of the Monitors is simple and dependable. A small lever on the monitor turret is set at "wind" and the film is moved until the numeral "1" appears in the red window in the camera back. The lever is then shifted, the exposure counter dial set at "1," and the first exposure made.

For each succeeding exposure, the winding knob is simply turned until it stops, the film then being automatically centered. After the eighth exposure, the control lever is returned to "wind," so that the balance of the film and paper trailer can be wound on the take-up spool. Exposures are counted automatically by the counter dial on the turret.

All Monitors take large pictures—the Six-20s eight $2\frac{1}{4} \times 3\frac{1}{4}$ pictures on a roll of Kodak 620 Film; the Six-16s, eight $2\frac{1}{2} \times 4\frac{1}{4}$ pictures on a roll of Kodak 616 Film. In styling, precision of construction, and performance, they will rank high in the Kodak fine-camera line.

A new line of fine cameras covering a wide price range—the Kodak Vigilants Six-20 and Six-16—are also announced by Eastman.

The Kodak Vigilant line offers a total of eight models—four in the group of Six-20 cameras taking pictures $2\frac{1}{4} \times 3\frac{1}{4}$ inches; four in the Six-16 group taking $2\frac{1}{2} \times 4\frac{1}{4}$ -inch pictures.

Construction features include bodies and backs of special high-grade aluminum alloy for strength and rigidity; a new system of bed braces with 10-point support for maximum rigidity of lens and shutter mount; body shutter release with large rounded-head plunger, which retracts automatically as the camera is closed, preventing accidental exposures; both eye-level and waist-level view finders; special latch to prevent accidental opening of the loaded camera; and tripod sockets for vertical and horizontal positions, as well as folding supports for leveling the camera in vertical or horizontal position on a flat surface.

All handsomely finished, and precisely constructed by fine camera craftsmen in the Kodak Rochester factories, the Kodak Vigilants are available at prices ranging from \$14.50 to \$42.50.

Nielsen of Tucson Thinks Movies Should Follow Candid

Charles Nielsen, manager of Martin Drug Store No. 1 of Tucson, Arizona, and whose particular "baby" is the photographic department, has again "hit the bell" with a successful sales idea.

A short time ago Nielsen sold Pima County a movie camera for use in "mugging" drunken driving suspects, and it has proved very successful.

His latest is the sale of a candid camera and equipment to the director of the Pima County welfare board. This camera is to be used to snap scenes of poverty and filth that will be of value in impressing upon the people of Pima County the fact that they have a real welfare problem on their hands.

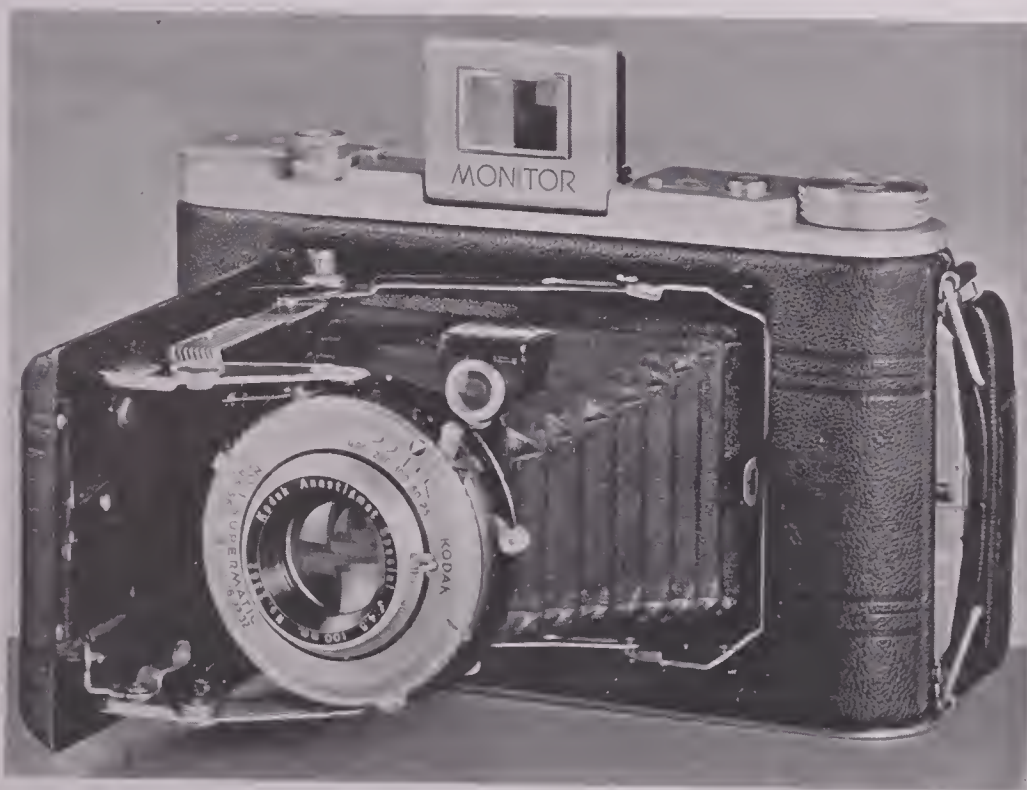
Nielsen hasn't said as much, but he probably figures that the welfare board will soon be in the market for a movie outfit to further and supplement the work started with the candid camera.

Bell & Howell Reduces on Filmo Camera 70-E and 70-DA

An announcement from Bell & Howell Company states that effective October 1, Filmo 16mm. model 70-E and 70-DA cameras will be reduced in price. The figures quoted are on cameras with Taylor-Hobson Lens, new prices being named last, as follows:

Model 70-DA, 1-inch F 2.7 focusing, former price, \$213; new price October 1, \$193; 70-DA, 1-inch F 1.5 focusing, \$243.50, \$223.50; 70-E, 1-inch F 2.7 universal focus, \$124, \$99.50; 70-E, 1-inch F 2.7 in focusing mount, \$139, \$114.50; 70-E, 1-inch F 1.5 in focusing mount, \$169.50, \$145. Lens prices remain unchanged.

The Kodak Monitor with f.4.5 Kodak Anastigmat Special lens and nine-speed Kodak Supermatic shutter.



**"THE BEST
EXPOSURE METER
I EVER OWNED"**

*says
Theodor
Sparkuhl A.S.C.*



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AUTOMATIC "HIGH LIGHT," "LOW LIGHT" SCALES — provide greater scale length with utmost readability; no confusing, congested numbers at either end.

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EXTREME SENSITIVITY — gives accurate settings in light as low as 1/10 candle per square foot.

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★

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FLUORESCENT . . . TUNGSTEN . . . DAYLIGHT . . . accurate settings under all types of lighting.

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"A picture is only as good as the exposure that makes it," says Mr. Sparkuhl. "On the sound-stage or on location, with super-fast film or slow, I let my new WESTON Master Exposure Meter guard my exposures, and know that each day's work will perfectly match the exposures of every other day's shooting.

"I have found the new WESTON Master is engineered to cope with the most exacting problems of today's—or tomorrow's—professional camerawork, yet it is simple and handy enough to be an ideal companion making vacation snapshots with my Leica. For every purpose, it is the finest exposure meter I have ever used."

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WESTON *Master*
EXPOSURE METER

Here Are Tips on Editing and Splicing

By JAMES A. SHERLOCK

Photographs by Writer

SYSTEMATISE your splicing, titling and editing. Meditate and enjoy the most interesting part of movie-making by editing your film in a way that each change of scene will be as smooth as possible.

There are many systems for editing, titling and splicing that can be used to rearrange scenes so that the film will have continuity and finish.

If a film be shot to a working script it is an easy matter to assemble scenes in their correct order, but if a reel contains a jumble of snapshots more thought and care are necessary.

With a little meditation, systematic editing, titling and perhaps the addition of a few extra shots, the most commonplace film can be made attractive.

A caravan holiday was recently filmed, the scenic portion of the tour being emphasized but closeups of the two holiday makers forgotten. This film has been improved by the introduction of a comedy angle. Various scenes have since been taken to show that Frank allows Kay to do all the work while he eats and sleeps.

These additional shots have been taken at weekend picnics, using scenery that

will match the original. If the scenic background was not suitable the sky was used. When the film is projected the audience jump to the conclusion that these well matched sequences were shot en route.

Projection Comes First

The first step when editing is to project the film. If the cutting has been done in the camera matters are simplified, but if the reel contains a mixture of unrelated scenes more time must be spent at the editing bench.

The editing bench illustrated is practical and contains many helpful gadgets.

The cardboard box (1) has each compartment numbered on the side to simplify the identification of each piece of film. This box contains a lid which is kept closed when the bench is not in use. The numbers have been cut from an office desk calendar. If a similar box is unprocurable pill boxes can be mounted on a board and similarly numbered.

On the working script is lying a pair of scissors (2) the liberal use of which should not be neglected. A Kodak film viewer (3) has a notching arrangement which permits any individual frame to

be selected and marked, but has the fault of requiring the film to pass through it in the form of the letter "z."

The splicing block (4) and rewind are made by Bell and Howell and mounted as one unit. Each spindle (7) is geared. On the left hand spindle (5) is a Kodak reel which has one side removed. This is done simply by loosening four small clips which attach each side of the reel to the hub. When the film is wound on this one sided reel it can quickly be removed in one piece and placed in its compartment without becoming twisted.

In the center of the bench is placed a piece of opal glass (6). Underneath is a light which permits the film to be speedily examined without putting it through the viewer.

Don't Unwind Film on Floor

Do not unwind film on the floor. Apart from the film collecting grit and dust it is also liable to be trodden on. Have a waste paper basket lined with a soft washing material. This will hold about 400 feet of unwound film.

While this editing bench is practical and convenient many variations are possible.

Small geared emery wheels can be purchased at chain stores, mounted on a board about 4 feet by 1 foot, and with the emery stone removed serves as an excellent winder.

The film viewer can be substituted by a magnifying glass or linen tester held over a piece of opal glass with a light behind it. This might be placed in the center of the board containing the rewinds. The splicing block can be replaced by a Kodascope film splicing outfit mentioned elsewhere in these articles. The whole of this outfit would not cost £1. (\$4)

Make Record Each Scene

When the editing bench that suits your requirements is complete project the film a few times till you are sure you know each scene, then with pencil and paper make a record of each scene, not forgetting such things as:

1. Faulty exposures.
2. Shots that are too long.
3. The photographic tone or colour of each scene as the jump from

Make a habit of using white cotton gloves when editing.





Kodak reel with one side removed is used for winding film.

a dark to a light scene is unpleasant to the eye.

4. The direction of movement, e.g., figure or vehicle moves to right, left or stops.

Now from your record study the scenes. From the best of these arrange a plan of continuity. If extra shots are needed note these and any titles that are required.

When this is done cut the film and place each piece in a compartment of the editing box where it can be quickly found. The titles and extra shots are then made and added to the editing box in the same manner.

Again study your notes which identify each strip of film and number them in the order in which they are to be joined. Be sure you have a continuity of shots that will make an interesting story. The film is now ready to be spliced.

Splicing

If a film has been carefully edited, it will contain many splices, and unless these have been skillfully made they will spoil a good film. This is one phase of moviemaking that the amateur often neglects.

A bad splice will cause the film to jump out of focus when it passes the pressure plate of the projector or will cause a breakdown in your show if the joints do not hold. In the case of Kodachrome, unwanted bright red spots will appear if the film is wound on a take-up spool when the cement is not thoroughly dry.

The price of a splicing outfit is not a gauge to its efficiency. The Kodascope film splicing outfit contains no moving

parts to wear, is cheap and very efficient. Elaborate outfits are more automatic and make the job less tiresome, but should be tested before being purchased to be sure they make a neat joint, do not damage the sprocket holes and at the same time leave these holes correctly spaced. Make these tests with a magnifying glass.

As to Splicing

If care has been taken when making the splice the film should be as strong at a joint as it is in any other spot. The two pieces of film should be welded by cement into one piece and the sprocket holes clean of cement.

A splice may be at right angles to the

edge of the film or diagonally across one frame. Neither method is perfect. My preference is for the Bell and Howell splicing block. It uses a dry scraper with a blade, not a file, that can be set to the correct depth, making it possible to remove emulsion with a clean cut edge and at the same time not interfere with the base of the film.

The wet scraping method is not as efficient. The water is liable to spread more than is needed, causing spots to appear at the joint. In the case of colored film, unwanted colored spots are seen.

With both methods it is essential that all emulsion be cleaned from the film in order that the two pieces of film will fuse evenly when cement is applied. To make doubly sure of this, the piece of film which is to be welded to the scraped portion should be moistened with cement and quickly wiped. This will leave a rough edge that will fuse quickly.

The less cement used the neater the joint and the longer it is left between the pressure plates before testing the stronger it will be. Do not strain the joint when making the first examination as the cement takes a considerable time to thoroughly dry. One minute should suffice to leave the film between the pressure plates.

The cement should be of the consistency of water and made by the same manufacturers as the film. Make a habit of using white gloves when handling film on the editing bench.

Even when in the act of splicing keep a cork in the bottle of cement to prevent evaporation and deterioration and always have a new bottle on hand.



Editing bench.

EDUCATING 300,000,000 WITH 16MM. MOVIES

By A. J. PATEL, F.R.P.S., F.R.S.A.

*Chairman Photographic Society
of India*

WHEN you talk of education to some of the elderly men in a country like India, you can expect the reply: "Education at this age? What for?" It is really difficult to persuade a shy, modest man to go to school, even though all the facilities of time and money can be arranged easily.

India is a peace-loving country, and has hardly thought of struggling to have more than the strictly necessary things of life.

In other words, we do not want to be uncomfortable to get the comforts of life. And when a man has lived thirty, forty or fifty years, made his living and raised a family, without education—without even knowing how to read and write—it is hard to make him take the path back to what he considers the childish thing of going to school.

It is also difficult to get the children of such people in schools, when their fathers, and their fathers' fathers before them, have lived without education. Neither they nor their parents have had any opportunity to see that education would or could be of any value in their daily lives.

It may not, perhaps, be their fault, since nobody had ever attempted to show them in practical terms they could grasp, how proper education may help them to live better, happier lives, and perhaps make many things easier for them.

Education Not Compulsory

Education in India is not compulsory, so unless the fathers can be made first to appreciate the usefulness of education, one cannot expect to see their children in the schools.

That is why in India today about three hundred million are uneducated. And

though today it may not be either possible or necessary to give them a formal school education, it is necessary to educate them in a practical way—to give them knowledge that will help them live better lives, that will give them a practical understanding of their daily work which may be useful not only in increasing their happiness, but in helping to build up the present and future industries of India.

Like many of those of my countrymen who have had the privilege of education, I have thought deeply over this problem, one of the gravest confronting my nation today. As a photographer, I have felt that motion pictures are the most likely method of solving the problem, and I am setting about to begin to apply them to it.

Motion pictures are interesting, in the first place; they catch people with their guard down in a way no written or spoken word can ever do. In addition, they are the only satisfactory way of giving education to people who can neither read nor write and who do not have the blessing of one nation-wide language.

India, as you know, is a vast country with innumerable villages. Between these villages are no good means of transportation. Neither do most of these villages enjoy such modernities as electric power.

In many districts each village has its own local dialect, which differs so much from that of its neighbors as to be almost a distinct language. All told, there are over three hundred languages and dialects spoken in India.

No Common Language

And there is no common language; even though English is the official and

increasingly the business speech of the nation, the villagers could not be taught in it, since they do not understand it at all.

So to apply visual education to India's millions we must have projectors which can be transported easily from one place to another and which do not necessarily have to be supplied from metropolitan lighting circuits. And above all, the pictures used must not depend upon either spoken or written words to convey their meaning.

All of these facts point inevitably to the use of 16mm. silent films. The projectors weigh less than even the lightest "portable" 35mm. machines, and are much less bulky. They may be carried almost anywhere.

Batteries or hand or wind-powered portable generators will solve the current-supply problem. And as for the use of silent films, how else can you convey information to illiterate people of many tongues without the use of either written or spoken words. Besides, as Confucius said, "One seeing is worth ten thousand tellings!"

Here, therefore, is how we are planning to put the project into practical operation. The Educational Film Institute of Germany will serve as our pattern.

On my recent trip to Europe, I made a careful study of the operation of this institute, which has attacked the practical problems of supplying educational films and projectors to schools with typical teutonic efficiency.

Germany 2000 Subjects

This institute has placed 34,000 projectors in 56,000 schools and has available some 2000 subjects to show on these projectors. In the many instances where the school cannot finance the purchase of the necessary equipment the institute provides it. Thereafter a nominal charge is made to the pupils who benefit from the films.

A fee of about ten cents is charged to the first child in a family; the second pays half-fee, while the third child does not have to pay. The proceeds from these charges are used partly to pay for the equipment furnished and partly to pay for the films supplied. From 150 to 200 different films are shown to every school within a year's time.

The films are made by professional producers working under the direct supervision of the institute. In many cases they grow from ideas suggested by the teachers who use the films or by the institute's own educators.

Treatment and presentation are supervised by educators. The subjects cover an extremely wide range, from the more formal educational subjects to such purely practical things as household necessities and factory or field work.

Returning to India, we feel that we can apply much of this plan to our own immediate needs. We will start with a limited number of projectors and expand as fast as is practical.

Before we are able to produce all our
(Continued on Page 519)

Film-wise Movie Makers

RELY ON

CINÉ-KODAK FILM

*For More Brilliant,
More Satisfying Home Movies*

THERE are four different kinds of 16 mm. Ciné-Kodak Film; three 8 mm. Ciné-Kodak Films. Within those varieties film-wise movie makers find the answers to even the most diverse problems. They know that they can depend on the uniformity of Ciné-Kodak emulsions; they rely on the scientific processing which, at no extra cost, complements their care in making the exposures.

The movies worth making are made on Ciné-Kodak Film.

16 mm. Ciné-Kodak Films

SUPER-X offers superb photographic quality, fine grain, ample speed, and remarkable latitude. Available in 50-, 100-, and 200-ft. rolls, and 50-ft. magazines.

* **SUPER-XX** gives you all the speed you're likely to need—plus excellent general quality. In 50-, 100-, and 200-ft. rolls, and 50-ft. magazines.

KODACHROME, available in two types, one for use by daylight and one for Photoflood work, is the full-color film beyond compare. In 50-, 100-, and 200-ft. rolls, and 50-ft. magazines.

SAFETY "PAN" combines quality and economy; for use where the special capacities of the other films are not required. In 100-ft. rolls only.

8 mm. Ciné-Kodak Films

SUPER-X, with its high speed, brilliance, and fine grain, is the new favorite for indoor work, or for outdoor movies, stopped down for maximum definition.

"PAN," the original "Eight" film, still offers beautiful quality, wide latitude, and basic economy.

KODACHROME, in its two types, gives 8 mm. movie makers full and facile command of the whole world of color.

* [Good news for 16 mm. movie makers. The price of the 100-ft. roll of Super-XX has been reduced from \$7.50 to only \$6.75, the 50-ft. magazine from \$4.25 to \$4.]



EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

DENSITOMETRY AND ITS APPLICATION TO MOTION PICTURE LABORATORY PRACTICE

By EMERY HUSE and GORDON CHAMBERS
Motion Picture Film Department Eastman Kodak Company,
Hollywood, California

In Three Articles—Article III

C. Physical Densitometers

THE physical densitometer, in substituting a light sensitive cell for the human eye, offers promise of greater repeatability of density measurement. Continuous use of a visual densitometer results in eye fatigue and, over a period of time, such monocular observation results in a weakening of the convergence ability.

1. Early physical densitometers.

A densitometer using a Case Thalofide cell was described by Schoen⁹ in 1923. This instrument was constructed for a special purpose and had only a limited density range. The electrical output was very low and a high sensitivity galvanometer was required. The light source was moved to and from the cell surface to obtain a constant cell output, the lamp position being a measure of density. This cell tended to show drift due to slow changes in internal resistance. With the advent of more stable cells this apparatus was dismantled.

The first physical densitometer used by the authors, which was in 1926, was a selenium cell device made for the British Photographic Research Association. A movable mirror allowed the measuring beam through the density or the comparison beam through a wedge to be presented to the cell which was connected to a galvanometer. When equal deflections were obtained in the two beams the density was determined by the setting of the previous calibrated wedge. This instrument was in many ways the counterpart of the Eastman

visual densitometer. The density range of the BPRA instrument was limited by the cell sensitivity and its operation was slow.

2. Instruments in Current Use.

a. Deflection Type.

In 1935 F. L. Eich¹⁰ of the Paramount West Coast Laboratory described a deflection type physical densitometer in which a barrier type cell was used. This original instrument continues to be in daily use. The barrier cell has a number of advantages. The cell is stable, has a fairly high output in microamperes and works best into an output circuit having a very low impedance. The use of this cell obviates the necessity of an amplifier with its attendant difficulties. The density range extends from 0.0 to about 1.0 but this range can be extended by increased scale length or the introduction of suitable matching networks between the cell and the meter. The original model used a Weston Photronic cell, a model 440 Weston meter of 30 microamperes full scale deflection and a storage battery to supply a steady current to the lamp. It is essential in a densitometer of the deflection type that the lamp current supply be very stable. In similar instruments now being supplied by C. S. Franklin, a Raytheon regulator of suitable capacity is used for this purpose. Several improvements in these Franklin instruments over previous ones of the same type have not been disclosed by publication.

In 1937 Lindsay and Wolfe¹¹ described a constant deflection type densitometer having a range from 0.0 to 2.7. In this instrument the light beam is interrupted

by a rotating sector, or "mechanical light-chopper," between the source and the photocell. The cell output, with proper impedance matching, is fed to the grid circuit of a multiple stage amplifier. A logarithmic gain control in an intermediate amplifier stage is used to maintain the output of the final stage at a constant value and the gain setting is a measure of density. Suitable key-switch controlled fixed networks divided the total range into three equal parts having slight overlaps.

b. Null Type.

The null type of physical densitometer where the outputs from the test and the comparison beam are simultaneously opposed to produce zero deflection of a galvanometer overcomes most of the objections to the deflection type in that variations in the light source are cancelled out by their equal effect on both beams and further because it becomes possible to dispense with an amplifier. In the constant deflection type densitometer the amplifier problem is lessened by the fact that it may be non-linear but it still requires constant voltage and filament supplies, no small problems in themselves.

A recording densitometer operating on the null principle has been described by Tuttle¹² who, together with Russell¹³, has also reported the results of a year's use of the instrument. One of these instruments has been in routine use for more than a year in the Motion Picture Film Department Laboratory in Hollywood. A great deal of preliminary work was done on this instrument during its design by Tuttle and Hiatt¹⁴. The conditions set

TABLE III
Density as Evaluated by Various Densitometers

Pot Opal	Pot Opal (Base to Opal)	Heavy Flashed Opal	Medium Flashed Opal	Light Flashed Opal	Sphere (Emul. to Sphere)	Sphere (Base to Sphere)	Photocell (Image in Contact with Element)	Photocell (Quartz Rod)	Contact Printing
0.000	0.000	0.012	0.017	0.020	0.030	0.032	0.012	0.022	0.04
0.100	0.107	0.112	0.120	0.155	0.119	0.128	0.112	0.125	0.14
0.200	0.212	0.212	0.223	0.282	0.209	0.223	0.212	0.229	0.24
0.300	0.316	0.312	0.326	0.407	0.302	0.319	0.312	0.332	0.33
0.400	0.420	0.412	0.429	0.530	0.394	0.415	0.412	0.434	0.43
0.500	0.522	0.512	0.532	0.652	0.487	0.510	0.512	0.537	0.53
0.600	0.623	0.612	0.635	0.773	0.581	0.606	0.612	0.641	0.63
0.700	0.724	0.712	0.738	0.893	0.675	0.702	0.712	0.744	0.73
0.800	0.825	0.812	0.841	1.013	0.769	0.797	0.812	0.847	0.82
0.900	0.926	0.912	0.944	1.131	0.864	0.893	0.912	0.951	0.92
1.000	1.027	1.012	1.047	1.250	0.959	0.989	1.012	1.054	1.02
1.100	1.128	1.112	1.150	1.368	1.054	1.084	1.112	1.157	1.12
1.200	1.228	1.212	1.253	1.485	1.149	1.180	1.212	1.260	1.22
1.300	1.328	1.312	1.356	1.602	1.245	1.275	1.312	1.374	1.31
1.400	1.429	1.412	1.459	1.719	1.340	1.371	1.412	1.477	1.41
1.500	1.529	1.512	1.562	1.835	1.436	1.467	1.512	1.580	1.51
1.600	1.629	1.612	1.665	1.951	1.531	1.563	1.612	1.684	1.61
1.700	1.730	1.712	1.768	2.067	1.626	1.659	1.712	1.787	1.71
1.800	1.830	1.812	1.871	2.183	1.722	1.754	1.812	1.890	1.80
1.900	1.930	1.912	1.974	2.298	1.818	1.850	1.912	1.994	1.90
2.000	2.030	2.012	2.077	2.413	1.914	1.946	2.012	2.097	2.00

forth in the early part of the present paper as necessary for the measurement of true diffuse have been applied in the design of Tuttle's instrument by a unique mounting of the barrier type cell used. The scanned area of the silver deposit, which is slightly less than seven millimeters in diameter, is immediately adjacent to the cell surface which is forty-five millimeters in diameter. The emulsion side of the film is placed toward the cell surface which is protected by a thin layer of plastic.

Light flux from the monoplanar filament source is divided by a beam splitter between the test and the comparison fields. That on the latter is constant while a double logarithmic mechanical diaphragm moving in a collimated beam serves to establish the balance in the test field. As in the visual Eastman Densitometer, all of the "wedge" is in position when no density is in the test field. The introduction of an unknown density is then offset by decreasing the density, in this case increasing the width, of the mechanical wedge. The cell outputs from the two beams are opposed onto a marine galvanometer and at a fixed point, zero deflection, the unknown density is determined by the position of the mechanical wedge. In this particular instrument additional facilities are provided in order that the density values may be successively recorded on graph paper by the discharge of a spark which perforates the paper. The scale of the graph paper is arranged so that the step interval along the abscissa, the Log E axis, is the same length as that of the step on the strip. The recording densitometer is specifically designed to read sensitometric strips exposed on an Eastman IIB sensitometer. Because of the size of the scanned area

it cannot be used to measure sound track.

Like the Eastman Densitometer of the visual type, the automatic recording densitometer is secondary in nature, the mechanical wedge requiring calibration against a standard. The instrument used as a standard for this calibration was that described by Jones¹⁵. Comparison of density readings obtained on the automatic densitometer with results obtained on the same film using an Eastman visual densitometer indicates that the visual readings on high densities are higher by about .04 than those given by the automatic. It is because of such discrepancies that the authors feel it very necessary that international standards be agreed upon for density measurement.

A number of other papers not cited here have appeared in the journals describing physical densitometers. Readers interested in the construction of such instruments are recommended particularly to the paper by Tuttle and Hiatt¹⁶ previously mentioned in order that the rigorous conditions there set forth for diffuse density measurement may be studied.

Standardization

It would appear reasonable that the values obtained as diffuse density for photographic deposits should represent the contact printing characteristics. It is desirable, therefore, that in standardizing on a method for the evaluation of density that the optical system used should be capable of collecting all of the emergent light from the sample being measured. Tuttle and Koerner¹⁶ described the results of a number of experimental determinations of density. Careful photometric tests were made to measure the contact printing density and

these values are related to measurements made with an integrating sphere and also results from an opal glass densitometer in which a series of opals of various diffusion characteristics were used.

In Table III, which is reproduced from the paper mentioned, are given the results which show the variations in density obtained with the various systems of measurements. Examination of these data shows maximum variations between various densitometers of the order of 20%. On the basis of these results the authors in a later paper¹⁷ have proposed the adoption of the integrating sphere as a primary instrument against which densitometers in practical

(Continued on Page 520)

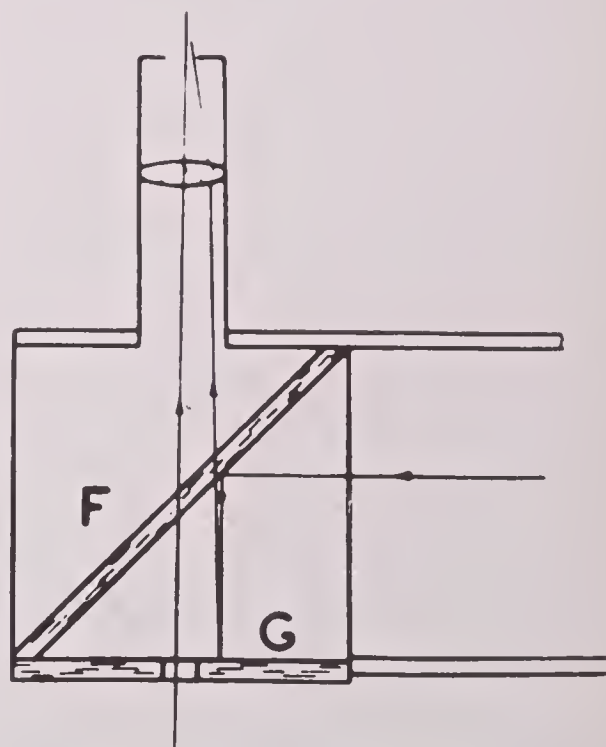


Figure 4

SOME NOTES ON EXPOSURES FOR BEGINNERS

By CLAUDE W. CADARETTE

Founder Los Angeles 8mm. Camera Club

THE emulsion on the film base contains powdered silver salts that are suspended in it. In development, these salts are transformed to metallic silver, the density of this silver being directly dependent on the amount of light that has fallen on it and the length of time it has been allowed to act on the silver salts.

In photography, we use only the light which is reflected from our subject, consequently we must consider the reflective power of our subject and the color of the light that is striking the emulsion.

The more important factors that must be considered in photography are exposures and lighting. Your picture, as it is viewed in black and white, is made up of a variation of tones from black to white; that is, the various degrees of contrast throughout the picture gives us the form and image of the subject in the picture.

Consequently, if we desire a true reproduction of our subject, we must expose the film so that a sufficient amount of contrast in all portions of the scene are comparable to the original.

Only a correct exposure can give all the tones from black to white that are necessary to true reproduction. If film is overexposed, the delicate tones are lost as the overabundance of light destroys them and the detail has been lost.

There is no way of satisfactorily intensifying this type of film, as the developing agents have dissolved the metallic silver, and contrast cannot be increased where detail does not exist.

The underexposure of film is caused by not allowing sufficient light to reach the emulsion. Like overexposure, the

detail is again lost, because the reflected light from the details has not been allowed to act upon the emulsion to any effective degree, so that the variation of tones can be produced.

Panchromatic films have a wide range of light sensitivity, and in addition to the improved methods of processing a maximum correction is given to the film to improve any miscalculation of exposure.

Should you overexpose or underexpose your film as much as a full stop the intricate processing machine will correct this error to bring the exposure to its normal stop.

Light is very misleading to the eye, and its effectiveness or actinic value can change in a short time. Seasons, latitudes and hours of the day can affect the actinic value of light, giving a wrong impression of its strength and cause you to make incorrect exposures.

Early morning or evening light may appear bright to the eye, but its photographic value is less than a noon sunlight. Therefore exposures in early morning or evening must be increased to adjust for this lower actinic value.

Light is greatly filtered when the sun is in a low position, causing a predominance of yellow and red rays during these hours. The loss of the ultra-violet rays of light at this time lessens the speed of the film emulsion.

An early morning scene may call for an opening of f.5.6, but at high noon the same scene may require the smaller opening of f.11. We may also film the early morning scene at f.8, but we must operate the camera at slower speed.

If the camera is operating at 12 frames a second, the shutter of the cam-

era remains open longer than when it is operating at 16 frames a second.

This slower speed of the shutter allows the light to act on the emulsion for a longer period of time, increasing its exposure. The only advantage this procedure adds is that the smaller stop of f.8 rather than f.5.6 increases the sharpness of distant objects in the scene.

The light during summer months is approximately two-thirds stronger than winter light. The value of light in June is at its maximum about six hours of the day, but in December its maximum strength is only a period of four hours and then only one-third as intense.

It is therefore very difficult to accurately determine the exposure of a scene when one is confronted by so many conditions that affect light values, and it is strongly recommended that a reliable light meter be used for all outdoor and indoor photography.

Proper exposure depends upon the following conditions, all of which may be calculated with a good exposure meter, but confusing when you depend upon your intuition only.

1. Hour of the day.
2. Geographic latitude of your location.
3. Season of the year.
4. Speed of the film used.
5. Color of the light reflected by the scene.
6. Type of light source (sunlight or artificial light).
7. Speed of the film travel in the camera.
8. Speed of the camera shutter.
9. Size of the lens opening.
10. Brightness of the reflected light.

Photo-electric meters are pointed directly at the subject to be photographed and the opening to be used is calibrated on the dial. It measures the amount of light that is reflected from the subject, which is the same amount that penetrates the camera lens.

In photographing small areas, the exposure is taken from the ground and not the sky. The brilliancy in the sky greatly affects the reading of the meter.

Inasmuch as the sky photographs white, the exposure of the ground area is of greater importance, consequently the meter is tilted down at an angle of approximately thirty degrees to exclude the sky. This practice should be made when photographing with a filter.

Seascapes or views consisting of great expanses of sky and water will appear flat on the screen due to insufficient contrast. The meter will register the correct amount of light for the exposure setting, nevertheless the picture will be improved if you close the diaphragm one stop to increase the contrast of the darker objects and lighter areas of the scene.

If you are using dark foregrounds of arches, trees or dark areas to frame

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Seltzer and Basil Direct and Photograph for WPA



PRODUCED by the motion picture production unit of the WPA Federal Art Project Photography Division, "From Hand to Mouth," an educational film on the causes and prevention of bacillary dysentery, had two simultaneous showings at the New York World's Fair when its presentation at the Medicine and Health Building augmented its current release at the fair's New York City Building.

Directed by Leo Seltzer and Elaine Basil and photographed by Mr. Seltzer, supervisor of the Motion Picture Production Unit, "From Hand to Mouth" was sponsored by the Bronx Hospital, where Dr. Joseph Felsen acted as medical and scientific collaborator.

This two-reel film presents a new direction in health education, making available to the general public information pertinent to bacillary dysentery, and showing what medical science is doing for its prevention and what the community at large can do to eradicate its causes.

Didn't Believe in Signs

In traveling around the city with their 50-pound load of motion picture equipment these two young Federal Art Project camera artists found their way into slum district-tenements, and into new low-cost housing developments, into public markets and pushcart stalls, cafeterias and along the water front.

They found a group of youngsters in an East River "swimming hole," splash-

ing about right under a sign which read, "Polluted Waters: DO NOT SWIM."

"In regard to our work," said Mr. Seltzer recently, "most of our productions have been on 16mm., including the film 'From Hand to Mouth.' This is to permit the most widespread utilization of these educational films in schools, museums, health centers, hospitals, etc. The fact that sponsors have in many cases a very limited budget for film production makes it necessary, if the film is to be produced at all, to shoot it on 16mm.

"Miss Basil and I at present are working on a three-reel 35mm. sound film which is being produced for the New York City Civil Service Commission. This film is intended for showing at the New York World's Fair in 1940, in schools, citizens' groups and other interested organizations. It will therefore also be released as a 16mm. as well as a 35mm. film."

Leo Seltzer was born in Montreal, Canada, 29 years ago. His technical training in high school, in college where he took courses leading toward an engineering degree, was supplemented with a number of years in art school.

After two years at college, in 1931 he planned to follow a line of work which combined his two major interests, art and technology. This synthesis, he felt, could be best achieved in photography. However it is not to be inferred that he arrived at his choice of a career in a purely mechanical manner. For as far

Elaine Basil and Leo Seltzer, at work on 16mm. productions for use in schools, museums, health centres, hospitals, etc. At present they are making a three-reel 35mm. sound film for the New York Civil Service Commission, which also will be released as a 16mm.

Photo by Sid Friend

back as he can remember he owned and used a camera.

Newsreel Is Documentary

His first "real" work came, he says, when he began to make motion pictures as a free lance news cameraman in 1931. He describes this work, which formed his major interest for the next four years, as "social documentary newsreel photography." In this activity he did extensive work as cameraman, director and editor.

In 1932 he took a trip through the Middle West and South with Sidney Howard, the playwright, for the purpose of collecting material for a film on the agricultural workers in these sections of the country. He has made numerous films of this type. One, in 1933, received favorable comment for its manner of dealing with the life and work of longshoremen on the New York waterfront.

His work is characterized by the selection and illustration of pertinent material, as well as a unique point of view. He believes that there is hardly a subject which cannot be presented in an

(Continued on Page 521)

Making Newsreel of Family Thanksgiving

By C. J. HUBBELL

West Coast Manager M-G-M's "News of the Day"

THIS year many of us are going to have two Thanksgiving Days—one the time-honored last Thursday of November, the other a week earlier, set aside by Presidential proclamation. Of course a photographic journal is no place to delve into the political and other controversial aspects of that question: but doubling up on the holiday certainly ought to give the Thanksgiving moviemaker a break.

With two Thanksgiving Days it should be much easier to turn out a really complete film of the family's Thanksgiving celebration—no matter which day you celebrate!

This is one season when the newsreel cameraman and the home-movie filmer have plenty in common. Newsreel crews everywhere count Thanksgiving as an every-year "must" subject, for at that season no newsreel issue is complete without its turkey day story.

In the same way most home-movie addicts find themselves under orders from their better halves to film the big family get-together. Both the newsreeler and the amateur are in the same boat: they've got to make a story from hackneyed material—and make it interesting to disinterested audiences.

If we examine the average material available to either one, we find that both of them have pretty much the same story ingredients to work with; therefore newsreel methods can be beneficially applied to making the home film.

Let's See What's What

Let's examine the basic material. Holiday—big family gathering—food and lots of it (especially turkey!); often the menfolk take in the local football gigantic—and finally that overstuffed feeling, frequently accompanied by distressed tummies.

There's your story in a nutshell. Its basic elements are tried and true; they've been serving newsreel crews faithfully for almost thirty years without growing stale—and if you dress them up in becoming cinematic clothes they'll serve you, too.

What's more, if you give a little thought to continuity and preparation, they'll give you a picture that will not only please the family group, but one that will amuse outsiders, as well.

By way of introduction this year we've a chance to depart from the time-honored formula by stressing the dual holiday angle. Since this magazine is supposed to be politically neutral, I'll leave the how of this treatment up to you and your own political preferences; either way, you'll find plenty of angles on which to work!

Once we're into the picture, why not a little advance flash of the family plans? You can have shots of Mother sending her invitations, and planning her feast—pricing turkeys in the butcher's shop and checking up on the capacity of the family roaster.

Father can be shown studying football schedules and getting the tickets to the big game. The children can be shown preparing in their own way—Johnny, perhaps, in training for record-breaking table performances, big brother Bill training for the game itself.

Ovens Important

All of this brings us to the day itself. Now we have Mother's preparations for the feast. Getting the table set—the pies and pudding prepared—and of course, the turkey entering the oven!

The next sequence can treat the preparations more personally: the family getting spruced up for company. Father's protests at being urged out of his slippers; the boys arguing over the bathroom; the feminine members putting the last touches to make-up and coiffure.

If you have a family—and an observant eye—you can develop abundant natural comedy relief from these suggestions. Simply keep your eyes open during the next few weeks!

And here, the relatives and guests begin to troop in. Since most of us are likely to be busy then, the simplest sort of newsreel treatment is best for this. Show the folks arriving and being

greeted; then take a firm grip on the rabbit's foot, and go a-gunning for candid shots.

At any rate, if you want to have an interesting picture, avoid making the conventional "posed" group picture of the family assembled. Individual, candid closeups are better; they are more interesting and far more characteristic.

Then, if the family is football-minded, comes the trip to the big game.

After that, the feast, highlighted by the demolition of the turkey.

By the time this is over, and the diners recover, good-byes are in order; but by that time, too, it is usually too dark for good photography, unless you want to go to the trouble of staged action with lights. And by that time, most of us are too tired—and too full—to be camera-minded.

Much Filming Before

This looks like a huge day's filming, doesn't it? It would be, too—if you had to do it all at once. But the fact of the matter is that a surprising lot of it can be done before and after the actual holiday, and the scenes that must be made then can be made almost painlessly, if you plan them in advance.

All of your introductory scenes can be shot at any convenient time before the holiday. All the business about preparations—doing the marketing, selecting the turkey, getting football tickets, and so on—can of course be done ahead of time.

And a surprising lot of the more detailed shots of getting the dinner under way can be, too, for many housewives like to bake the pies, make the hard-sauce, and even prepare the turkey for roasting the day before, leaving a minimum of work and worry for the big day itself. That of course makes the filming easier; and in addition, many families are likely to celebrate two Thanksgiving-days this year, so the opportunities will be doubled!

That goes for the football game sequence, too. Since these games were arranged a year or more ago, when everyone thought that Thanksgiving, 1939, would fall on November 30, they were set for that date—and even though many of us will eat our turkey on November 23, the pigskin will get kicked around on the traditional date. So there's another less sequence to film while we're full of turkey.

And—whisper it softly—if you're hosting a big party to the game, or if you find the crowds are too big (and your seats too bad) to permit good camerawork, you can often double shots of some earlier game—or even last season's game—in your picture.

Around the Radio

Incidentally, if you are one of the economical families who prefer to take their Thanksgiving football in comfort, via radio, you can still get an action-

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Pacific Labs Have Complete 16mm. Service

(Continued from Page 498)

has sound recording rooms with instruments to record direct on film or acetate discs, sound cameras for synchronous recording and a sound truck for location work.

Its processing department is of the latest design, with air conditioned rooms and with absolute temperature control of developing solutions. The developing machine is a twelve tank unit with removable stainless steel tanks and has a capacity of 20,000 feet per day. The first tank provides a soak bath to eliminate any air bells from the film before it enters the developing solution. Then there are three tanks of developing solution, followed by a short stop tank, one rinse, three of hypo fixing baths, and three fresh water spray baths. The finished product is absolutely free of water marks and there are no roller scratches under the sound tack area.

Here the photographer can ask for definite standards of processing and be assured of that result. Densitometry and sensitometry are employed for testing, and the operator in charge is one of the ablest technicians in the country. Production of sound track, composite printing, duplicating negatives, editing, cutting, etc. are all part of the service.

The producer or advanced amateur requiring such service can find here complete 16mm. equipment and can place the responsibility for all technical work with one establishment.

Agfa Ansco Providing New Greeting Card Equipment

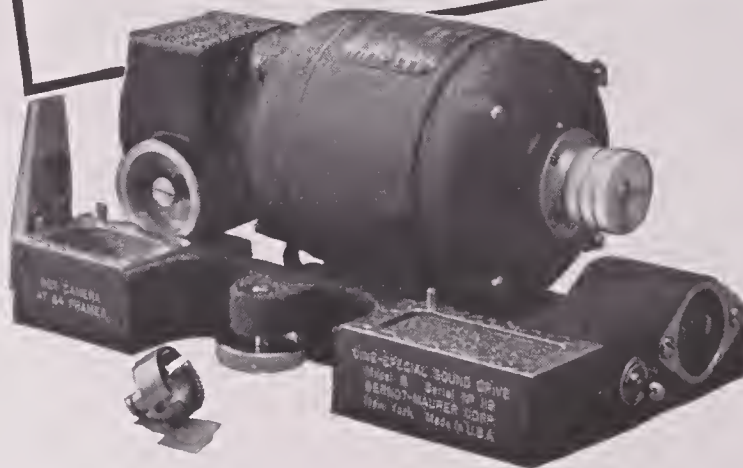
Amateurs planning to make photographic Christmas Cards this season will be glad to know that a new Agfa greeting card outfit is now available which greatly simplifies the work involved in preparing and printing the combination negative.

The new Agfa outfit provides six 5x7-inch masks made on Reprolith film, which carry the design and message of the card. Each mask also has a 2x3-inch rectangle of clear film appropriately located for the printing of a personal snapshot negative.

Guides are provided on each mask to simplify centering of standard 4¼ x 5½-inch greeting card stock, and full instructions are included for use of the masks and for imprinting personal signatures. Special attention has been given to the construction of the masks to insure good contact with the paper and in the design to provide a pleasing relationship between picture area and ornamental decoration.

The new Agfa greeting card outfit is available at photographic dealers at \$1.69. Special deckled-edge photographic paper in the 4¼ x 5½-inch size of Agfa Cykon Kashmir White has been made available at the regular price of \$.45 per two-dozen package, \$1.10 per ½ gross, \$2 per gross.

A SIMPLE STEP TO SOUND-ON-FILM



A New Low-cost Plan that provides the Finest Results. For People who now use Silent Films or Sound-on-Disc

With nothing more than a synchronous motor drive for your present camera, you can obtain the finest professional quality 16 mm sound films at prices which are reasonable enough to surprise you. If your camera is a Ciné Kodak Special, you need only the B-M Synchronous Motor Drive illustrated above. For other 16 mm cameras there are other makes of synchronous motors available. In either case, here's how it's done.

You film your picture at synchronous speed. Edit it as you wish to have it appear. Write the script and select any music that is required. Then merely send this material to one of the sound-on-film laboratories listed below for your sound recording. Each is equipped with B-M sound recording apparatus and is qualified to produce theatre quality results. You can specify treatment of your film to be as simple or as elaborate as you may wish.

If You Are Now Using Silent Pictures

... you'll be surprised to find that a sound-on-film recording costs little more than a first-class professional titling job.

If You Are Now Using Sound-on-Disc

... the advantages of this method are even greater. First of all, with sound-on-film, it is easier to obtain perfect synchronization. The ease of projecting is obvious. With sound-on-film there are no turntables to watch, no adjustments to be made continuously. Moreover, film does not deteriorate with use but maintains its high level of quality for any number of projections.

JUST TWO THINGS TO DO

- 1st** To enjoy professional quality sound on all your future pictures ... order your synchronized motor now or write for additional information regarding one to ...

THE BERNDT - MAURER CORP.

117 East 24th St., New York, N.Y.

- 2nd** Write to any of the four laboratories listed below for more detailed information about how to prepare your material and to obtain estimated costs.

Eastern: Sound Masters, Inc., 1560 Broadway, New York, New York

Spot Films, Inc., 339 East 48th Street, New York, New York

Middle West: The Calvin Co., 26th & Jefferson, Kansas City, Missouri

West Coast: Roger Sumner Productions, 327 E. Green St., Pasadena, Cal.

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Lap Dissolves and Other Effects Available in B&H 8

Lap dissolves and other theater-movie effects which require backwinding of film in the camera can now be made with Filmo 8mm. equipment.

The lap dissolve rewind attachment recently announced by Bell & Howell can be installed on any Filmo double eight camera, either before or after

purchase. A unique feature of this new Filmo 8 rewind is that it counts the frames one by one as they are rewound in the camera.

Bell & Howell announces that a special fader to work in connection with the new rewind will soon be made available. In the meantime owners of Filmo 8 cameras provided with the new rewind attachment can improvise means for fading with the lens diaphragm.



Arrow denotes new lap-dissolve rewind attachment on a Filmo turret 8.

Film-Weld on Market Already and Going to Amateurs Soon

Larry Strong, Inc., 1241 South Wabash avenue, Chicago, is shipping Film-Weld, the successor to Film Cement, to professional users. The company is not quite ready to contact the amateur field, although that plan is already determined. The fluid is for nitrate, acetate and all color film. It is issued in bottles to theatre, exchanges and studios in sizes of 1 ounce, special theatre size of 4 ounces at 50 cents, of a half pint and a pint. Price of the latter is \$1.25.

It is not a cement in the ordinary acceptance of that expression. Rather it is clear as water and really flows as freely. It is claimed to make a splice from .0005 to .0010 thinner than any film cement and to make a splice that won't pull apart. It may evaporate, but so slowly that it hardly counts. It will not lose strength when left exposed to air or thicken. It will not harm clothes or fingers or cause film to buckle.



Splices made with a faulty splicer.

See Page 508

Educating 300,000,000 With 16mm. Movies

(Continued from Page 510)

own subjects, we will naturally show many of the educational films already produced in America and Europe. We will of course work with 16mm. silent films, and with each film we will issue a booklet describing the film, so that the projectionist can give any explanation which may be necessary for his particular audience.

Wherever possible we hope to avoid the use of titles, and keep things strictly pictorial and visual.

Educational—But Entertainment

There seems but one serious drawback to this plan. That is that since our audiences must come voluntarily, strictly educational films are likely to be too dull at the outset.

Therefore we plan to sugar-coat the pill. We will begin by producing films of our own which will combine educational value with entertainment.

That is, they will tell an interesting, if simple, story which will at the same time indirectly get over some bits of practical information likely to benefit the audiences that see the film.

There is yet another important aspect to this. By making our own films wherever it seems best, we will be able to apply the desired information more intimately to the lives and understanding of the audiences we try to reach.

An audience of American miners, for instance, would not be nearly so likely to appreciate a film on safety methods if they saw it enacted, let's say, by Turks or Russians, as they would if they saw it enacted by Americans like themselves.

In the same way, an audience of Indian miners, stonecutters, farmers or metal workers will certainly take a lesson in modern methods more quickly to heart if they see it presented in a simple little playlet dealing with people like themselves, in surroundings they can understand, than if it dealt with foreigners, in strange surroundings.

Naturally, too, such films could and would deal more directly with some of the things peculiar to India, and perhaps unknown abroad.

Sees Himself on Screen

What we want to accomplish is to be able to make each member of the audience think, "Why, this person is a man just like me, doing the work I do in the same sort of a village. He did things much the way I do—and see how he got hurt and made his family suffer. And that neighbor of his did things a different day—and see how much happier he is because of it. Maybe I could make things better for myself if I tried doing my work that new way!"

The question of educating three hundred million people can be simplified, and

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The Challenger can be set up instantly anywhere. (No clearing of books or bric-a-brac from tables; no confusion getting ready.) It is the only screen with *square* tubing in the tripod and the extension rod to hold the screen in perfect alignment. It is the only screen that can be adjusted in height by merely releasing a spring latch and lifting the extension rod. No separate adjustments of the case. Be sure you get these convenient features. For your vertical Kodachrome transparencies, choose a Challenger with a square screen surface. Look for the name Da-Lite. 12 sizes including square shaped, from \$12.50* up. Other styles of Da-Lite Screens as low as \$2.00*. See at your dealer's or write for literature!

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- Folds Compactly for Storing
- Da-Lite Glass Beaded Surface for Brighter Pictures

in time solved in this way. The beginnings will be small, and will necessarily deal with the simplest things first. But they will build a foundation upon which much can be built as time goes on.

I am confident that all of my countrymen who want to see our country advance will assist in one way or another in starting this enormous task. Great help is also to be expected from the many institutions throughout the world which have already done so much for visual education, and those which have expressed such friendly sentiments toward India and her people.

Ultimately I am sure we will see great results from turning 16mm. movies

to the task of helping to teach India's three hundred million.

American motion pictures are meeting with considerably less competition in Peru this year than was the case in 1938, according to a report to the Department of Commerce from American Commercial Attache David M. Clark, Lima.

Mexican-made pictures met with little success in Peru this season, the report said. The quality of American films shown this year was definitely superior to that of 1938 and as a consequence they have produced good income returns.

Densitometry and Its Application

(Continued from Page 513)

use can be calibrated. Sensitometric strips measured on an integrating sphere can be used as sub-standards for this purpose. It is shown that the variation in graininess of the various films will have very little effect upon this. A calibration made using a series of densities on positive film will make it possible to measure all other materials on such a calibrated opal glass densitometer within an error of .02.

These results all point to the final solution of the problem that the density values obtained on various types of densitometers may agree and a basis will be obtained for the calibration of such new types as may be constructed in the future.

July, 1939

West Coast Laboratory

Motion Picture Film Department

⁷ Capstaff, J. G., and Greene, N. B.: Trans. S.M.P.E., 7: 154, 1923.

⁸ Morrison, C. A., and McFarlane, J. W.: J.O.S.A., 25: 417, 1935.

⁹ Schoen, Arthur L.: J.O.S.A. and R.S.I., 7: 483, 1923.

¹⁰ Eich, F. L.: Jour. S.M.P.E., 14: 180, 1935.

¹¹ Lindsay, W. W. Jr., and Wolfe, W. V.: Jour. S.M.P.E., 18: 622, 1937.

¹² Tuttle, Clifton: J.O.S.A., 26: 282, 1936.

¹³ Tuttle, Clifton, and Russell, M. E.: Jour. S.M.P.E., 18: 99, 1937.

¹⁴ Tuttle, Clifton, and Hiatt, B. C.: Jour. S.M.P.E., 16: 195, 1936.

¹⁵ Jones, Loyd A.: J.O.S.A. and R.S.I., 7: 231, 1923.

¹⁶ Tuttle, C., and Koerner, A. M.: J.O.S.A., 27: 241, 1937.

¹⁷ Tuttle, C., and Koerner, A. M.: Jour. S.M.P.E., 29: 622, 1937.

Some Notes on Exposures for Beginners

(Continued from Page 514)

your picture for good composition, these foregrounds will mislead your meter. The darker areas do not affect the light-sensitive plate in the meter and the needle would indicate a larger opening. The background, or sunlit sections of the picture would then be overexposed and the loss of the detail in the background would give unsatisfactory results on the screen.

In states or localities that are snow-covered in winter months other compensations must be made to assure correct exposure. The glare of the snow will cause the meter to indicate a small opening for the lens, whereas the light may be weak and low in actinic value. As winter sunlight is only one-third the intensity of summer sunlight, the opening of the lens must be greater.

If you were to shoot at the opening indicated by the meter, the reading would represent the value of light reflected by the white snow only, and the darker objects would be underexposed. To allow for better exposure, it is safer to open the lens one stop more than the meter indicates.

The camera operates normally at 16 frames a second, but when we film at greater speeds of 24, 32 or 64 frames per second, the film travels through the camera gate faster and receives less exposure per frame. We can let the meter compensate for this variance in film travel and take our readings direct from the meter.

If you are shooting at 16 frames a second with a camera that has a shutter speed rating of 1/40th of a second the shutter rating is changed to 1/80th of a second when the camera operates at 32 frames a second.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of American Cinematographer, published monthly at Los Angeles, Calif., for October 1, 1939.

State of California } ss.
County of Los Angeles, Calif. }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared George Blaisdell, who, having been duly sworn according to law, deposes and says that he is the editor of the American Cinematographer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor and managing editor are:

Publisher, American Society of Cinematographers, Inc., Los Angeles, Calif.; editor, George Blaisdell, Los Angeles, Calif.; managing editor, George Blaisdell.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) The American Society of Cinematographers, Inc., Los Angeles, Calif.; John Arnold, President, Los Angeles, Calif. No capital stock.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) GEORGE BLAISDELL, Editor.
Sworn to and subscribed before me this 6th day of October, 1939.

[Seal] JNO. A. ERNST,
Notary Public in and for the County of Los Angeles, State of California.
(My commission expires July 24, 1942.)

The following tables are computed for all cameras which have different shutter speed ratings. Select the rating for your camera and you can determine the shutter speed when you operate your camera at various speeds.

Camera Shutter Speeds

Eastman	.....1/30 second
Zeiss	.....1/30 "
Stewart-Warner	.....1/50 "
Keystone	.....1/50 "
Bell and Howell	.....1/40 "
Paillard-Bolex	.....1/30 "
Emel	.....1/30 "
Ditmar	.....1/30 "

Cameras with normal shutter ratings of 1/30 second at 16 frames a second

Frames a second	Shutter Rating
8	.....1/15
12	.....1/25
16	.....1/30
24	.....1/48
32	.....1/60
48	.....1/90
64	.....1/120

Cameras with normal shutter ratings of 1/40 second at 16 frames a second

Frames a second	Shutter Rating
8	.....1/20
12	.....1/30
16	.....1/40
24	.....1/60
32	.....1/80
48	.....1/120
64	.....1/160

Cameras with normal shutter ratings of 1/50 second at 16 frames a second

Frames a second	Shutter Rating
8	.....1/25
12	.....1/35
16	.....1/50
24	.....1/80
32	.....1/100
48	.....1/160
64	.....1/200

Films have a different emulsion speed when used with artificial light. This is due to the fact that artificial light is low in blue ray content, resulting in a lower actinic value. This lower value of light can be compensated by an adjustment of the meter dial. The readings of the meter are taken in the same manner as for outdoor filming, although caution should be taken that no light is shining in the meter.

All lights that are used for back-lighting should be turned off while the reading is taken, as they do not figure in the exposure from the camera's point of view.

For photographers who have not as yet purchased a meter the exposure tables inclosed in the film packages will act as a good guide for exposures. Any slight error that is made in judging the exposure will be corrected in the processing of your film.

Seltzer and Basil 'Direct and Photograph for WPA

(Continued from Page 515)

interesting and dramatic manner through the medium of the film, whether it be a documentation of a news event or an illustration of a highly technical industrial process.

Films Plane Engines

He made an educational film, in 1935, dealing with the manufacture of aero-plane engines in the Wright Aeronautical plant. This film was subsequently used to teach other workers in this highly specialized industry.

During this same year he also produced a series of medical films in natural color at Mt. Sinai Hospital. One of these educational motion pictures filmed an experiment in bloodless surgery. Another dealt with surgical procedure in lung operations.

Since his employment by the WPA Federal Art Project in New York City, Seltzer has photographed and directed a film on the "Technique of Fresco Painting," which demonstrates the entire process of planning and painting a mural in fresco.

Copies of this film have been allocated by the Federal Art Project to a number of museums throughout the country and have been seen with great interest by audiences in schools, colleges, and cultural groups in hospital, orphanages, clubs, unions and other organizations and institutions.

The completion of this film saw the establishment under the Photography Division of the WPA Federal Art Project of an official Motion Picture Production unit, headed by Leo Seltzer. With additional facilities and personnel, a definite program of production of sponsored educational films was started.

Both he and Miss Basil recently have been engaged in working on a film for the New York Civil Service Commission, picturing the fight for good government in the City of New York and the functions and aims of the city's civil service merit system.

Only Camera Owner

Miss Basil grew up and went to school in Detroit. Her childhood interest in the theater led her to New York, where she won an acting scholarship for the Theater Guild School. But her idea of theater was repertory, where within a group all phases of the theater could be experienced and a continuity of development assured.

Because of her belief in community group theater activity she worked in and helped develop the Studio Players, in Cambridge, Mass., and later the Actors' Repertory Theater in Atlantic City.

When the Atlantic City group needed photographs to illustrate the work and the plays being presented, Miss Basil

was assigned to take these pictures, for the reason that she was the only person available in the group who owned a camera.

Watched Film Production

With the success of that photographic experience still fresh, she returned to New York, and, finding no opening in the theater, she gladly accepted a job to do camera research for Albert Johnson, who was designing sets for a Paramount motion picture.

She photographed typical buildings



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and locations in New York characteristic of certain periods, which could be used as source material for Mr. Johnson's work. She also had many opportunities to watch film production on the set.

Her association with an independent film production group as still photographer in the making of a film on the New York waterfront brought the realization of the dynamic possibilities of the motion picture to record and present in dramatic continuity the life that existed all around her.

From this idea she became seriously concerned with film production. And although her plans were plentiful and she had many ideas, there were no funds for films and equipment.

Employment by the Federal Art Project Photograph Division solved this problem somewhat, and when she later was assigned to work with the motion picture production unit she was permitted activity in film on the "Technique of Fresco Painting," but her first real opportunity to handle a movie camera came when she was assigned to do a short film on the problems of the Out of School Youth.

Her work on "From Hand to Mouth" covered almost every phase of its production, from preliminary research in collaboration with Mr. Seltzer to writing of the script and codirecting.

Besbee Products Company Has Unique Splice Gadget

Besbee Products Corporation in Trenton, N. J., has brought out an unusually clever and useful article for rapid and efficient splicing called the Rapid Twin Desk Set.

The Rapidon Film Adhesive Applicator, which does away with gummy cement brush and bottle, and his twin



This is not a desk pen—it is a splicing aid

brother, Rapidoff, the handy Emulsion Moistener and Remover (works like a fountain pen), are placed in an attractive metal holder.

When on a desk the complete unit resembles an expensive fountain pen desk set. Besbees price for the set is \$3.50. See it at your dealer's or write direct to Besbee.

CLEAVES VISITS FORD'S: NOW NEGATIVE NO. K-42

ALL famous guests—not excepting photographers—get photographed at the Ford Exposition at the New York World's Fair. Howard Cleaves, ace wildlife photographer who made a diving suit for his camera and has traveled more than 50,000 miles to bring wild animals back on film, spent fifteen minutes in the photographic department of the big exhibit—and walked out with a glossy print of himself.

Daring, patience, and mechanical ingenuity have marked Cleaves' unique career. He has been photographing animals all his life. He descended in a water-tight tank to film diving ducks in action. He cruised 250 miles over the Florida Everglades in a blimp to photograph wildlife below.

He has crouched night after night for more than a week in a steel barrel on the edge of a forest clearing to record flash light pictures of wild bears. It took him three years to get one of his most famous pictures, of an osprey rising from a strike.

In the Ford Exposition's photographic department files, Cleaves became Negative No. K-42. The photograph of him which accompanies this article was one of more than 100,000 which have been made under the shadow of the Trylon and Perisphere, and mailed for publication during the 1939 World's Fair season.

Six photographers, headed by Russell Kimble, constitute the department personnel. This department is just one unit of the vast photographic division of the Ford Motor Company, headed by George Ebling. A newspaper photographer of distinction himself, Kimble broke in on the Philadelphia Inquirer in 1921.

He has been staff photographer for the Chicago Tribune, Detroit Free Press, Detroit News and Washington Post. He knows a headline picture when he sees one. He made the capture of Benjamin Purnell ("King Ben") of the House of David at Benton Harbor, Mich., in November, 1926. He has covered the White House and all official Washington.

He was the second newsphotographer in the Clark Street garage where in the Valentine's Day Massacre took place in Chicago on February 14, 1929. He hails from Wilkes Barre, Pennsylvania. He covered the Century of Progress in Chicago, 1934, and the California Pacific International Exposition in San Diego, 1935, for the Ford Motor Company.

Equipment in the Ford Exposition's photographic department, which has done the biggest job of any industrial building at the Fair, is standard. Included are two Eastman 5 by 7 enlargers, one Pako contact printer, three speed Graphics, and one all-metal 8 by 10.

When King George and Queen Elizabeth visited the World's Fair—Kimble made them, of course. He wired Dearborn for a "Big Bertha," and snapped the royal couple from the roof of the Ford Exposition as they whizzed past, enroute to their reception at the Fair.

Eastman Issues Silent 16mm. Films by Teaching Division

The following new 16mm. silent films are announced by the Teaching Films Division of the Eastman Kodak Company, Rochester. The prices quoted cover outright purchase, which in each case is \$24.



To show you how they do things at the Ford Exposition at the New York World's Fair—here's Ace Wildlife Photographer Howard Cleaves. He poked into the film developing room, and as he took a peek at a negative, he too was photographed.

The Eyes (Advanced)—Animation and photography show, in detail, the anatomy of the eye; dissection of an animal's eye, microscopic structure of the retina—physiology of the eye; correct use of lenses to overcome defects in focusing—hygiene of the eye.

The Eyes (Primary)—A film intended for use in elementary grades. Compares the eye with a camera, shows the action of the iris; focusing; pathway of light impulses to the brain. Care of the eye.

Child Care, Bathing the Infant—Various types of equipment which may be employed in bathing the baby are shown in use, as well as the correct methods of handling the infant during the bathing operation.

Child Care, Feeding the Infant—A detailed picturization of the routine of feeding the breast-fed and bottle-fed baby. The preparation of utensils used, the procedure of making up the feeding formula, and the feeding operations are shown.

Food Series, Vitamin B₁—the natural sources of vitamin B₁, the antineuritic vitamin. The effect of deficiency of vitamin B₁ on pigeons and young rats. The effect of extreme vitamin B₁ deficiency on human beings—beriberi.

Safety Series, Safety at Home—This safety film for children in the first three grades illustrates safety practices for children in the home.

Safety Series, Safety at Play—A safety film for children in the first three grades. Contrasts safe and unsafe places to play.

Safety Series, Vacation Safety—A safety film for use in grades four to six, and in Junior High Schools.

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Making Newsreel of Family Thanksgiving

(Continued from Page 516)

filled football sequence into your film. Just get a succession of close shots of your menfolk clustered excitedly around the radio—closeups of supporters of the opposing teams registering joy, sorrow, disgust, etc.

When the roll comes back from the laboratory intersperse these scenes with your stock shots of other games—and you'll get a convincing effect, particularly if you work in some fotofade "wipes" from the radio shots to the game shots.

All of this leaves you just about three sequences to shoot while the celebration is actually on: the arrival of the guests; the emergence of the turkey from the oven; and the actual feast, including, if possible a closeup of the ruins of the turkey when everyone has had enough.

The shots of the turkey entering and leaving the oven can be quick close-ups, and can be safely made without benefit of a tripod. Even if you are working in color, a single lamp should suffice. If you can, get one of those clamp-on lamps equipped with a "mogul" base, and use a No. 4 Photoflood.

That gives a lot of light, and will enable you to cover a much larger area with only the one light, making for faster work.

Now, the simplest way to handle the shots of the arriving relatives is to set the camera on its tripod on the front porch. Then, with the camera pre-focused and wound, all that is necessary is to start it running as each group of guests arrives, and let the actual event "direct" itself.

With many cameras, you can even let the camera run itself while you walk into the picture and play your own part!

Plenty Lights in Advance

For the scenes of the dinner, it is a good idea to set up your lights ahead of time, and if possible have enough of them so that you can use several separate groups as a unit.

This way, when you see something interesting happening at one end of the table, all you need to do is throw one switch, or, if you have each group connected as a unit to a multiple outlet, plug in one connection. Then the lamps illuminating that particular area will come on, and you can shoot your scene quickly, without disturbing your people too much—and get back to your own plate with a minimum of delay.

When something interesting happens at another part of the table, it can be filmed the same way, without moving lamps and sometimes without moving the camera. A variety of angles helps build the effect of such a sequence; so, too, does the use of a variety of lenses, telephoto, normal and wide-angle.

And to close your picture, it's hard to improve on the trusty old newsreel

"gag"—the aftermath: "Junior," deeply regretting his last few pieces of pie, gulping down a spoonful of castor oil!

It may not be altogether novel, but it is certainly human interest; we've all done it.

And human interest and continuity are the factors that make a family's holiday film interesting to the other fellow!

Philadelphia Cinema Club

In spite of the hottest day ever recorded in Philadelphia, for October 10, the Philadelphia Cinema Club entertained a rather large group at its October meeting held in the Hotel Adelphia.

Our own W. W. Chambers, whose reputation as a photographer goes back a considerable number of years, exhibited to the membership 800 feet of 16mm. black and white scenes entitled "The Delaware Canal and Vicinity." He then showed 400 feet of Kodachrome of scenes in and around New Hope, Penn.

The showing was accompanied by comments from Mr. Chambers on the scenes with reference to lighting, composition and specific attention to details. He demonstrated clearly that he is a master of the movie camera, as well as of still photography. He particularly emphasized certain features of lighting by running portions of the film backward, as well as forward. This was particularly true of back-lighted trees.

Not to be outdone, W. E. Chambers, bringing in a Bolex projector, adjustable to both 16 and 8mm. film, presented his offering of some 800 feet of 8mm. Kodachrome taken at the World's Fair. He demonstrated that by bringing certain shots down to 4 frames of speed, he was able to get results not otherwise possible. Mr. Chambers, then speaking on the topic he knows so well, discussed for the

members the legal aspects of photography.

The average amateur gives practically no thought or consideration to his possible legal obligations when photographing living subjects, and the frank discussion was certainly a welcome addition to our knowledge on that subject.

He also demonstrated quite clearly with his World's Fair pictures that a lawyer can at the same time, be a good camera man.

Using a Polar Screen, varying his speeds, taking shots indoors and out, making use of sky, background and the masses of color, he used the fair to produce a real 8mm. job.


B. N. LEVENE,

Chairman of Publications Committee.

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Notes on Exposure Meters

(Continued from Page 501)

light and where the darkest significant shadow. Next determining the proper distance to stand from each when making the reading. This is a serious problem as has been shown in the discussion of Figure 4.

Next comes the problem of determining the geometric mean (not the arithmetic mean) of the two readings. When all these steps have been taken a significant figure is obtained which will usually lead to the determination of a correct exposure. However this is not a method which can be used in a great hurry.

In this discussion several of the more important conditions which affect the readings obtained from a photoelectric exposure meter have been pointed out. Next month it is proposed to present a quantitative analysis of the functioning of a meter set up on a test stand in a laboratory.

This procedure will enable us to form an idea of the magnitude of the variations that may be expected.

(TO BE CONTINUED)



Figure 4

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In his new capacity he will bring to the present and prospective clients of the laboratory the benefit of his wide technical experience. Previously, Mitchell was manager of Andre Debie Inc. of

New York for two years and before that for twelve and a half years head of the technical service of Bell & Howell in Chicago.

He has also been active in the activities of the Society of Motion Picture Engineers, particularly in those of non-theatrical and laboratory committees and is the author of many technical writings dealing largely with the specialized problems of the 16mm. field.

Pioneer Anthony Fernandez Greets Hollywood Friends

Anthony Fernandez of Mexico City is in Hollywood for a onceover. It is seven years since he has been in this town, in which place he joined the Thomas H. Ince crew in 1911 as a stillman. He admitted the still facilities were not exactly ample in those days, being confined partly to a few trays for developers, etc. After an apprenticeship as a stillman he joined the laboratory, from which he was graduated to the moving picture camera in 1926.

In 1932 he removed to Mexico City as a freelance camera man, specializing in trick shots. He expects shortly there will be a picture shown in Hollywood on which he worked as cameraman, "Om-bres del Aire," translated as "Men of the Air." It was made in Mexico.

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ART REEVES IN MEXICO LOOKS OVER FILM WORKS

ART REEVES, who for ten years has been dealing in motion picture equipment, is home from a three weeks' stay in Mexico City. He would have stayed a little longer had he been tipped off to the extreme heat that had got more than fairly under way in this Los Angeles town after he got started.

As it was he got in in time for a couple days of 100 degrees or more as it was every day for a week. It did go to 107.2 one day—we are speaking officially now, of course—being but 1.8 shy of an all-time record. Can you beat such luck, after having gone so far, and that 109 having been recorded forty-seven years ago!

Reeves went south with a half dozen men from Mexico City, who had been giving the o. o. to Hollywood and North Hollywood and Culver City and the various other places which are called Hollywood when speaking generally. They were:

B. J. Kroger, who calls himself just a sound man but who bulks big as a Mexico City producer; Gabriel Figueroa, cameraman; George Fernandez, set designer; Lauren Draper, cameraman; Ignacio Torres, still cameraman, and J. Martel, assistant cameraman.

Made Big Ones

Kroger came here mainly to pick up an Art Reeves rerecording system to complete his two sound trucks with Art Reeves equipment. He has made all the big special talking pictures, such as "Alla en el Rancho Grande," "Ora Ponciano," "Ojos Tapatios" and "Que Idiotas Son Los Hombres." His latest pictures are "Papacito Lindo" and "La Noche de los Mayas," the latter with a budget of a quarter million pesos.

The C.L.A.S.A. Studio has several stages and a machine shop. Also there is a laboratory with a Sensitester and two Art Reeves developing machines. Last year these machines processed ten million feet of film.

Garcia Moreno controls the Azteca Studio, with Reeves developing machine and Sensitester. There are two sound stages and laboratory. At the studio of Mexican Films George Stahl has three sound stages. Three other stages are scattered about the city.

The Rodriguez Brothers have three sound trucks. One of these trucks, by the way, is operated by Consuelo, a sister of the brothers. She has a name in the local trade for her efficiency, attested in no uncertain way by the offers, some quite bold and others with one eye on the brothers, seeking to secure her consent to joining one of the competitors.

Makes Fast Trip

Mexico City has twelve sound trucks. Reeves said he had to report his equipment and parts may not have been quite

unanimous, but his glow tubes very nearly hit that mark.

The run of the two autos from Hollywood to Mexico City was a trip. The way was through El Paso and Laredo. The party left at 9:30 Saturday night. El Paso was reached at 4 o'clock Sunday afternoon. The bunch slept until 3 o'clock Monday morning. At 4:30 that afternoon they crossed the river at Laredo and started for Mexico City.

The party drove all Monday night. They arrived at Valles for breakfast 5 o'clock Tuesday morning. Then they started up the mountains for the last

200 miles. The elevation of seven to eight thousand feet brought them into the clouds and most beautiful scenery.

It was a wide road, paved with asphalt all the way, with a center line clearly painted. The highway was banked at turns, with many otherwise bad curves protected by steel guard rails.

The writer took the liberty of calling the Southern Pacific office to inquire as to the railway distance from Los Angeles to Mexico City. The answer returned was, that by way of San Antonio and Laredo, it was 2393 miles. As it's eight miles farther from Hollywood than Los Angeles that makes it 2401 miles from here to there, not a bad run from Saturday evening to Tuesday forenoon.

And of course a matter of real interest locally is the statement of the returned traveler regarding average temperature in Mexico City: that it hovers between 65 and 75. It is not easily forgotten we do things—at times—quite differently here, meaning Southern California in general and Los Angeles in particular, where under circumstances somewhat timidly described as unusual the temperature is not content to hover. It really soars. G. B.

THE Railroad Boosters of Los Angeles, a body of young men particularly interested in railroads, boarded a train at Los Angeles the morning of Sunday, October 15, en route to Carriso Gorge, California, close to the border of Mexico. Just to show the members were not of a single track mind, practically every one was carrying a camera.

There were little ones other than minicams and there were big ones. Not many movies were in the bunch, but there were enough to prove the rule. The train stopped at San Diego, where members and guests came aboard to swell the total to 250.

The special train swung over the tracks of the San Diego and Arizona Eastern, which for forty-eight miles out of San Diego is laid in Mexico. The train traveled through the Gorge and stopped for a wait of twenty or more minutes. Much film was consumed, the majority in still stock.

The run below San Diego was spectacular, and while the elevation attained was only 3660 feet the scenery was well worth while. Particularly was this true from Jacumba Springs for eleven miles to the Gorge. The comparatively short bit of track which runs through the Gorge is reported to have cost four million dollars; it is entirely understandable. Also it is equally understandable why an inspector of highway on a speeder looking things over travels over the track ten minutes in advance of a train. The track is about a thousand feet above the bottom of the Gorge.

The start was at 7:30 in the morning. The train reached Los Angeles at 11:20 that evening. That was quite a full day—and the boys and girls seemed to enjoy it to the full.

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Making Modern Matte-Shots

(Continued from Page 495)

sults depend upon perfect matching of the two components—which can only be assured by actual photographic tests.

The matte-painting itself is mounted on a special carrier, hung from a rigid, overhead support. The carrier may be manipulated from the camera position, by remote control, moving in and out with relation to the lens, up or down, to right or left, or revolved, to assure perfect registration.

One of these installations fronts on a large door which opens through to the special-effects stage. When necessary, this door may be opened to permit the camera to photograph through clear areas in the painting—which in this case would be painted on glass—to allow the inclusion in the composite shot of any additionally desired action, as for instance on a process screen, a miniature, or even live action, with or without a set.

This has been useful, for instance, in such scenes as a painting of a city street, in which actors at the far end of the large stage have moved in the "distance" of a city street which in actuality was painted.

Use Front Mattes

As has, I believe, been the case in most studios, we have found that the best results come from having a soft matte-line on both the original take of the live action and the later take of the painting. Therefore Retlefsen makes his painting with a soft matte-line.

The areas embraced by the first exposure are in this painting matted out in a flat, non-reflective black. In theory, this should be enough, but in practice we have found that a soft front-matte used in photographing the painting will give an even better blend.

It is more trouble, it is true, but the results justify it. It is greatly to the credit of Cameramen John Crouse, who photographs most of our matte-paintings, that he voluntarily goes to this additional trouble to assure better results.

The teamwork evidenced between Crouse and Detlefsen is notable, too. Each has full confidence in the ability of the other: Crouse is unwilling to ask for a repaint in any detail of a painting until he has exhausted every photographic artifice in coordinating the composite result, for he knows that even minor changes in a well-made matte-painting can detract from its convincing aspect.

Detlefsen, on his part, never argues when he learns Crouse feels the painting needs changes, for he knows that Crouse never demands changes merely to make his own work easier. The result is that when the two complete a matte-shot, very little criticism is ever possible.

(To Be Concluded)

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AT last it has fallen our way to look in on the famed production "Good-bye, Mr. Chips." Well was it worth the waiting and the delays. But already there is planning to catch it again before it is lifted from the screen—for it is one of the few pictures that easily will justify a second and a third showing.

Frequently it happens there is an outstanding part in the subject that is being reviewed. Far less than frequently is there a second lead, a co-lead, that shines with marked brilliance. It is the fact here. Robert Donat we know, and as we know him we may be pleased and thrilled at his performance, but we are not surprised.

Greer Garson we did not know. But her appearance on the screen was a continuing thrill—and like her appearance in the book was all too short.

And the cast as a whole was of unusual calibre.

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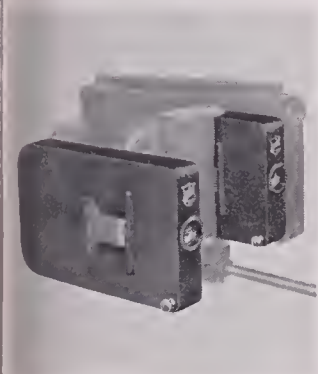
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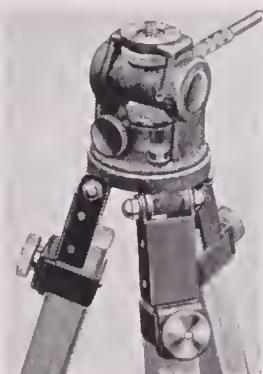
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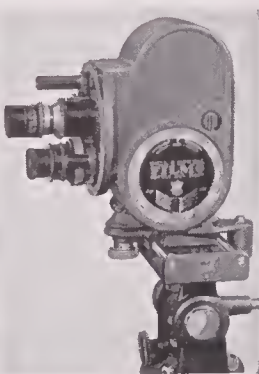
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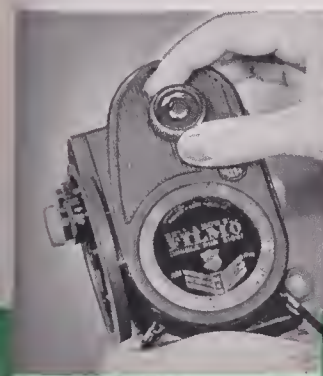
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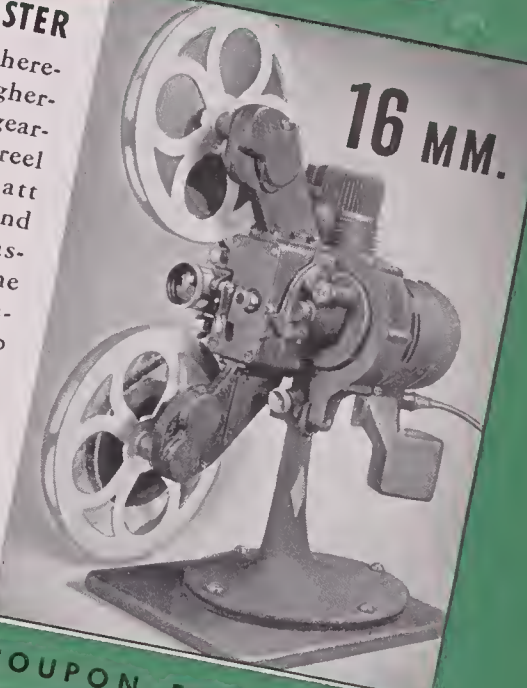
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Front Cover

TO catch every subtle nuance in the magic dancing of Zorina in "On Your Toes" the camera crew used every device at its disposal. For this scene in the "Zenobia" ballet the boom is called into play. This beautifully wrought instrument, constructed of featherweight steel (at a cost of \$11,000) and operated by four men, enables the operators of the camera to shoot the famous ballerina from every angle, from above and from below her. The musical portions of the picture were filmed under the direction of Georges Balanchine (at right of dancing group with hand on hip); James Wong Howe, A.S.C., cinematographer for "On Your Toes," stands with Georges (in gray suit, white shoes). The operative cameraman is George Nogle.



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Testing New Weston Meter

By Theodor Sparkuhl
A.S.C.



IT has frequently been stated that the use of a modern photoelectric exposure meter is a valuable aid in maintaining consistent negative values under varying conditions of lighting and film sensitivity. The greater part of this discussion has been based on the use of meters measuring incident light, giving the impression that the reflected-light type of meter is not suited to modern studio conditions.

While I have no desire to revive the old controversy over the respective merits of incident light versus direct light readings, I feel that a statement of my recent experiences using one of the newer types of reflected light meters may prove of constructive value at this time.

Briefly, they may be summarized by the statement that I have found it possible to name arbitrary overall light readings and film-speed settings which will permit one to predict with accuracy the printing value of the negative so exposed.

DuPont Superior—(Old Type).

It must be understood, of course, that my experiments were based on the processing procedure of the Paramount Studio laboratory, and would accordingly require some modification for film processed in other plants where negative development or printing might be scaled differently. The meter used was one of the new Weston Master models which, due to its increased low-range sensitivity, is unusually well adapted to modern conditions.

Photographing normally keyed studio interiors on the old-type DuPont Superior negative, I have found that if the meter's film speed scale is set at a speed value of 20, and the light reading is taken with the B or normal arrow on the meter's calculator, an overall light value midway between the calibrations 6.5 and 13, with the camera's lens at f.2.3, will give a negative printing normally on light 14.

Using the same film for normal exterior scenes, I set the meter's speed scale at a value of 24. Taking my reading with the B (normal) arrow on the calculator, and setting my camera accordingly, I obtain a negative which also prints on light 14.

On exterior scenes, of course, this reading may always be taken as a basic exposure, to be modified as may be necessary by reducing the shutter aperture, applying filters, and so on.

It may also be observed that in some instances the speed values I have used differ somewhat from those in the Weston table. This is to be expected due to differences in laboratory processing, and in some cases in the effect desired. The Weston engineers themselves specify that their ratings are based on averages, and should be modified according to individual practice.

DuPont Superior—Type II.

At this writing I have had the opportunity to use the new and faster DuPont Superior, Type II, only on interior scenes. For such scenes I have found it best

Theodor Sparkuhl, A.S.C., veteran cinematographer, is here shown (left) watching the rehearsal of Robert Paige in a scene for "Opened by Mistake," which George Archainbaud (center) is directing at Paramount.

to use a film speed setting of 40. With this setting, and taking my reading with the B (normal) arrow, an overall light reading that brings the needle exactly midway between the 6.5 and 13 calibrations gives a negative that prints on light 15.

My average lens setting for interiors made with this film is f.2.8. Accordingly those who prefer to photograph interiors at the maximum aperture of their lenses and with greater reductions in light levels will have to modify their meter technique somewhat, as will also those who favor higher light-levels and smaller stops.

Eastman Super-X.

While with the coming of the newer, faster emulsions, Eastman's Super-X has to a great extent been supplanted by Plus-X in studio work, a brief mention of my findings in connection with this film may be of interest.

On interior scenes I used a speed value setting of 16 for Super-X, with my procedure otherwise the same as when using the old type DuPont Superior. In other words, light to get an overall light-value reading midway between 6.5 and 13, use the B arrow in

taking the reading, with the lens stop f.2.3 and the resulting negative will print at light 14.

Using Super-X for exterior scenes, I have had the best results when using a speed value of 20, thereafter proceeding normally. The resulting negative prints on light 14.

Eastman Plus-X.

Using Eastman Plus-X for ordinary interior scenes I have found a speed setting of 32 to give excellent results. With this the reading is, as usual, taken with the B (normal) arrow on the calculator. A light-value of exactly 6.5 gives a negative that prints on light 13. The diaphragm stop I used was f.2.5.

Process Shots.

I have frequently heard the complaint that no existing meter will give accurate results in making transparency or back projection process shots. I naturally welcomed an opportunity to experiment in this direction, shortly after obtaining the new model meter. While these tests were only made on a limited number of scenes in two productions, I believe I have established a technique for using the meter in making such shots.

An overall reading, from camera position, is taken *with the background plate being projected*. The tests were made using Plus-X negative.

For this type of shot, I have found it necessary to use an artificially high speed rating; I set the meter for a film speed of 100. Then I take my reading with the A or half normal exposure arrow on the calculator.

Under these conditions, and with the background projector in operation, I have found that for night-effect scenes an overall light-value of 1.6 will give a negative which, being exposed at f.2.6, will print on light 17.

For transparency day-effects, I use the same technique—that is, a speed setting of 100, and taking the reading with the A narrow. Taking my reading in this manner, I have found that an overall light-value of approximately 3 results in an exposure of f.2.8 and a negative (on Eastman Plus-X) which prints on light 17.

Practical Shots at Earl Carroll's.

As I write this, these experiments have just paid practical dividends in solving a somewhat unusual problem. Paramount is planning a picture to be called "A Night at Earl Carroll's," written around Hollywood's most spectacular cafe-theatre.

Due to the intricate construction of the multiple revolving stages which are an integral part of this theatre's revues, the studio executives decided that it would be much more efficient to film some of the spectacular numbers in the actual theatre, during a performance, than to attempt to reproduce them in the studio.

Accordingly one afternoon recently I received a sudden call to make tests that night, during an actual performance at Carroll's. Since none of us were too familiar with the precise routine of the show, we agreed to go that evening merely to study the acts, while I made preliminary tests with my Leica.

The next night we loaded a cine camera with the new Du Pont Type II and set out to film actual motion picture tests. Since we were to be photographing an actual performance, only the usual theatre lighting was possible. This naturally included many colored light-effects.

From my position at the rear of the house I took a reading with my meter. The light-value was 1.6; hardly enough, it seemed, to make possible an exposure.

But I recalled that this was the same light-level I had found in testing the meter for transparency night-effects. Moreover, the lighting appeared visually to be very similar to the levels I knew were used in transparency shots.

Since this impression was confirmed by the meter's reading, I made my shots with confidence, using a full-aperture ex-

posure rather than the f.2.6 used for transparency night-effects.

The results were rather surprising, even to me. The exposure was not only adequate, but even somewhat full, they printed about on light 17. In all, we exposed more than 20,000 feet of film on that evening's two performances, using the new Du Pont Type II on the first show and, as a matter of safety, the faster though coarser-grained Super-XX on the second.

These scenes were intended, as I have said, for tests. But they proved so satisfactory that it has been decided to use many of them, especially those made on the finer-grained emulsion, in the actual production! They will be used as cuts, in montages, and the like. Moreover they have proved the practicability of filming actual production scenes, in sound, in the theatre.

Prefers Reflection Readings

In conclusion, it may be observed that while this technique of using a meter provides an excellent guide to overall illumination values and printing densities, it does not and can not indicate anything concerning the balancing of the lighting.

This, I believe, is the proper function of the meter, for while all cinematographers strive to maintain consistent printing densities, no two of them balance their lighting in exactly the same way, even though they may employ identical overall illumination levels and exposures.

Taking reflected-light readings from the camera position is, I believe, the quickest and most satisfactory method of using a meter. I realize that many extremely capable cinematographers favor incident-light readings, taken on the key light from subject position.

But to me, this admits a possibility of error: the key light may give the correct reading in itself, yet the overall illumination—especially when varying reflective values of set and costumes are considered—may easily be insufficient to give the desired printing density.

With a reflected-light reading, on the other hand, the meter's indication imme-

(Continued on Page 538)

Two of Cinematographer Sparkuhl's Lecia test exposures made during an actual performance at Earl Carroll's theatre-restaurant. The new DuPont Superior Type II negative was used, exposed 1/50th second at f:B.C—the same exposure given by the motion picture camera.



Use of Fine Grain Positive Emulsions for Variable Density Film Recording

By John K. Hilliard

UNTIL recently the accepted method of recording by the variable density film method has utilized conventional positive emulsions. This film has a grain such that to keep the noise to a tolerable state, electrical noise reduction is applied. This application causes a variation in noise with the degree of modulation which at times has caused a disturbing intermodulation.

The size of grain in film emulsion was one of the first factors to be recognized as a limitation upon how quiet film sound recording could be. In the early days of sound the most practicable choice of a film medium was ordinary positive stock which had the merit of being relatively fine grained in addition to its other qualifications of speed and contrast.

It was well recognized that this selection was only a matter of expediency and that ultimately the whole question of grain structure and its effects upon the sound product would have to be worked out, but at the time other problems were much more pressing.

Grain size and clumping characteristics in picture emulsion had always been under study, and the results obtained in the past few years in background process stocks and in higher speed fine grain negatives and duplicating stocks have been truly remarkable.

For a long time, however, it appeared that a decrease in grain size in any emulsion was produced only at the expense of speed. It has only been a relatively short time since the higher speed fine grain stock, for picture purposes, have been available due to the progress

which has been made in the use of more advanced methods of emulsion making which have enabled the film manufacturers to produce fine grain without a loss in speed.

In view of the probable delay in securing improved fine grain sound film emulsions, the activities of the sound engineers were early directed toward synthetic methods of reducing film noise, with the notable results of the many methods of producing electrically operated noise reduction, of push-pull and its variations, the squeeze track and pre- and post-equalization.

All of these have served an important part in noise reduction in the final product and it is probable that certain elements of them will always continue to be necessary in order to secure the maximum practicable effective reduction. That is, they will be needed to augment the noise reduction which can be obtained in the film itself.

With all of the regular electrically operated noise reduction devices there is inherently a time element in their operation which in general produces deleterious effects. These may be minimized only by careful choice of the elements used and the degree of reduction attempted.

If, therefore, quiet background film emulsion could be found which was adaptable to sound recording, an immediate forward step could be made. Such a step was made possible some

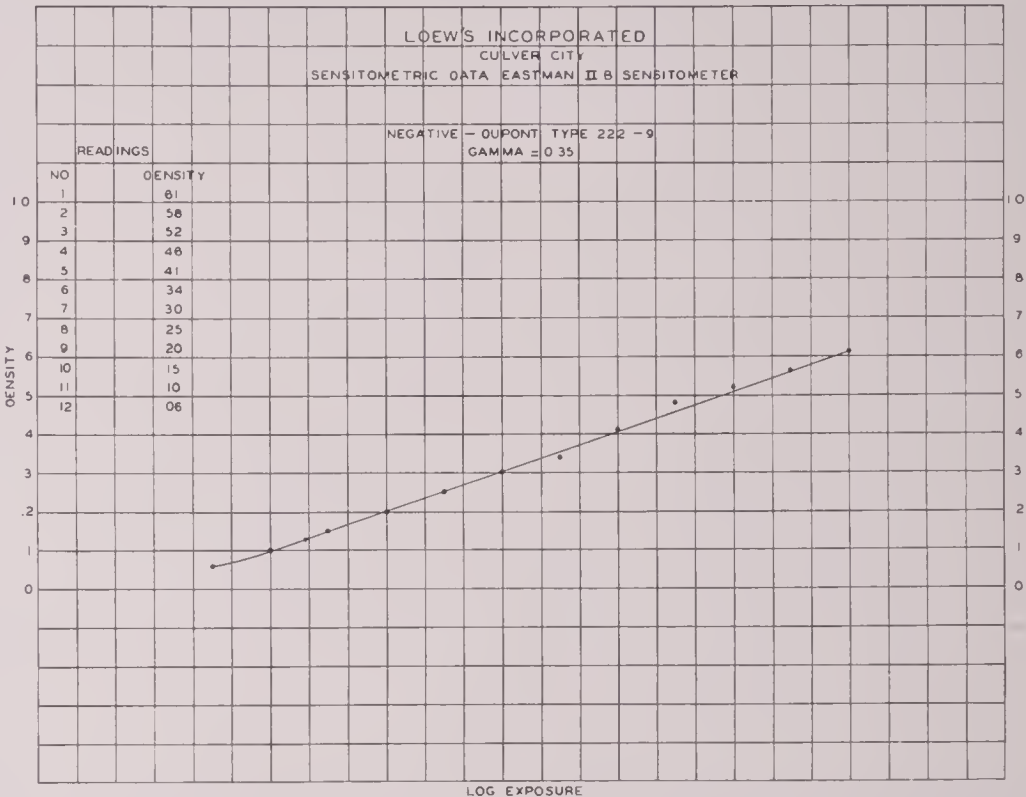


Figure 2

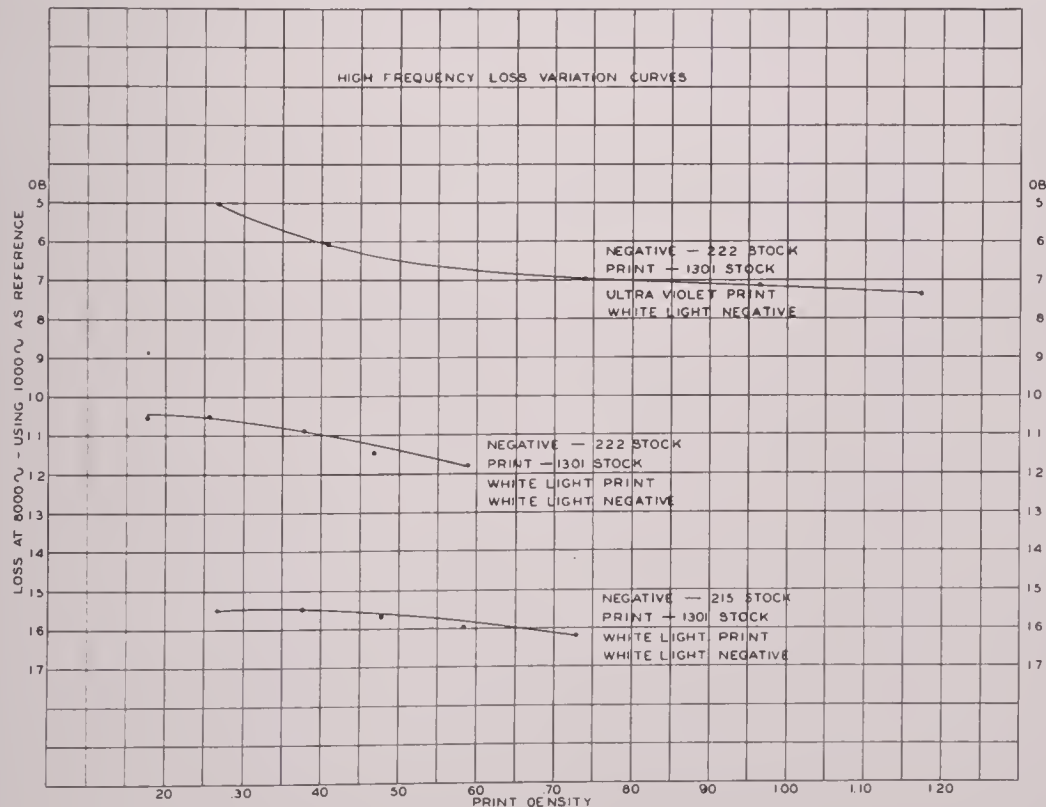


Figure 1

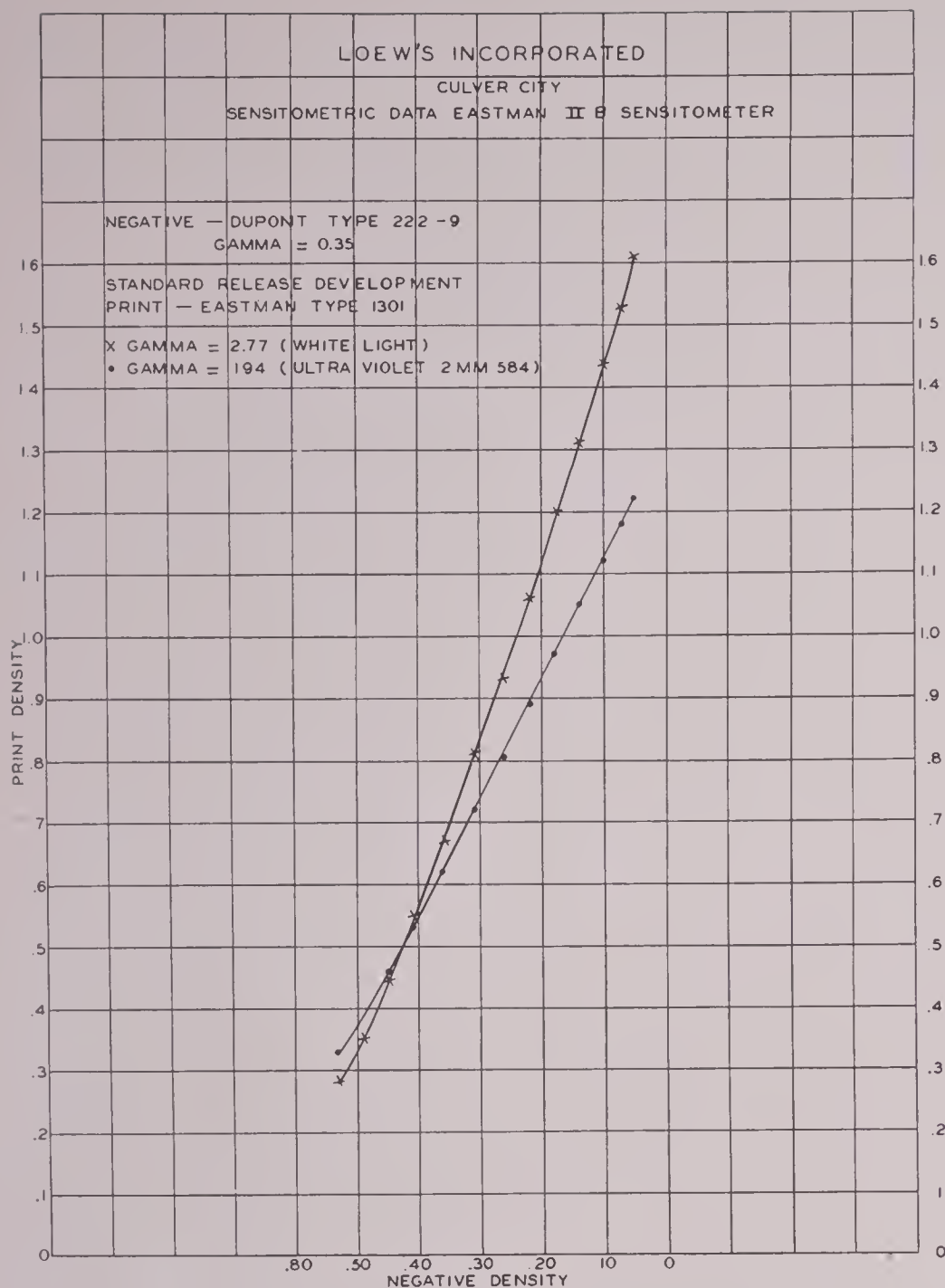


Figure 3

time ago for variable area recording, as the speed requirement was less severe. For variable density recording the progress was slower and practical recording was made possible only about a year ago.

Early in 1938 tests on type 1365 film indicated the stock was too slow for recording. However, it was possible to obtain prints on this stock, and these showed the noticeable reduction in background noise and general improvement in quality as a result of fine grain. The search for a faster fine grain stock then began, realizing that its use in both original and release prints would produce superior results.

Later in 1938 attention was brought to the Dupont 216 type stock which appeared to effect definite possibilities and test work was commenced to determine experimentally if we could achieve in negatives as well as in the prints the quality and noise improvement which had been predicted by the preliminary experiments.

In this we were fortunate in our use of the 200 mil type of push-pull as the nature of the optical system and valve is such that we obtain twice the film exposure that the 100 mil standard system obtains, with equal lamp supply, with no change in intermodulation due to the size of the valve image at the film.

A very definite improvement was noticeable, but another serious problem was raised, namely, the difficulty of processing fine grain negative in standard solutions and in the regular machines without adjustment which would interfere with production.

The Dupont Film Manufacturing Company, which had been following the experiments with interest, suggested another type of emulsion which would have further improved speed characteristics and which would more nearly lend itself to the requirements of production processing.

With the availability of this stock, the 222 type, the progress has been much more rapid as it has permitted the film

laboratory more effectively to enter into the problem and to handle the film.

Some months ago after many tests, the decision was reached to go into normal production on all musical recordings and to work toward the adoption of fine grain negative for all production recording. The production use was gradual, starting in January of this year, with the entire studio product now being recorded on fine grain negative of the Dupont 222 type.

Early tests using fine grain original prints from which the rerecording or dubbing is made indicate that a great improvement in quality and noise was obtained.

The next greatest saving appeared to come from the use of fine grained material for the original negative, and following these two uses, the more refined improvement came from the use of the fine grained stock for all four processes, namely original negative, rerecording print, rerecorded (or released) negative and lastly, the release print.

Consequently, we chose to concentrate first on the rerecording prints, and for over a year all prints for this purpose have been made on fine grain stock. Next came the use of the fine grain stock for original sound negative and for several months the universal use of the stock for this purpose has been an accomplished fact at this studio.

During the period of getting the stock into these uses, work was being carried on to determine the practicability of the use of the stock for release negative, and a number of pieces of special material have been so released, with the expectation that all M.G.M. sound release will be on fine grain negative at an early date.

The last step, the use of fine grain stock for release prints is the most difficult, not from the technical standpoint, but economically. Our work together with the excellent results in the production, "Geromino," recently demonstrated by Paramount, shows clearly that an easily recognizable quality improvement may be obtained in both picture and sound through the use of such a release medium. Its adoption is, however, a matter of cost which cannot properly be discussed here.

Sensitometric tests indicated that the speed of the 222 stock was 1/6th of ordinary positive film. To obtain the necessary exposure, incandescent lamps when forced to maximum safe temperatures were found adequate for original recording where the efficiency of the optical system is higher. Also, various types of mercury arc lamps of the high pressure types were tested.

Due to the wide variation in spectral quality, the type of exposure obtained from these different sources was also varied. The emulsion, which ultimately gave the best results for negative and print, has been a rather high gamma infinity stock (3.5-4.0) in terms of the regular positive emulsion (2.5-3.0).

This high gamma infinity in turn caused a change to be necessary in the

method of developing the film as well as in its printing.

When light of a totally different spectral distribution such as is obtained by the mercury vapor lamp and ultra violet filters, the developed gamma differs from the control gamma obtained with Tungsten light. *Since the departure cannot be measured directly until the sensitometer and densitometer are equipped with the same quality of light as the recording and printing light, we must resort to dynamic tests such as intermodulation and harmonic analysis.

The difference between the product of negative and positive control gamma and true unity gamma has been due to several factors such as print and projection, factors and the difference in colmination between measuring and reproducing equipment. Measurements which include these factors show unity gammas as indicated by electrical densitometer readings currently made.

Sensitometric tests indicated that the actual gamma was approximately 30 per cent to 40 per cent higher than the indicated gamma by conventional methods, this difference in gamma being a result of the fine grain structure which causes a marked difference in scattering of the light when transmitted through the film.

Further tests indicated that ultra violet exposures would reduce the effective gamma of the negative by approximately 10 per cent. When ultra violet exposure is applied to the print as much as 30 per cent to 40 per cent reduction in gamma could be obtained.

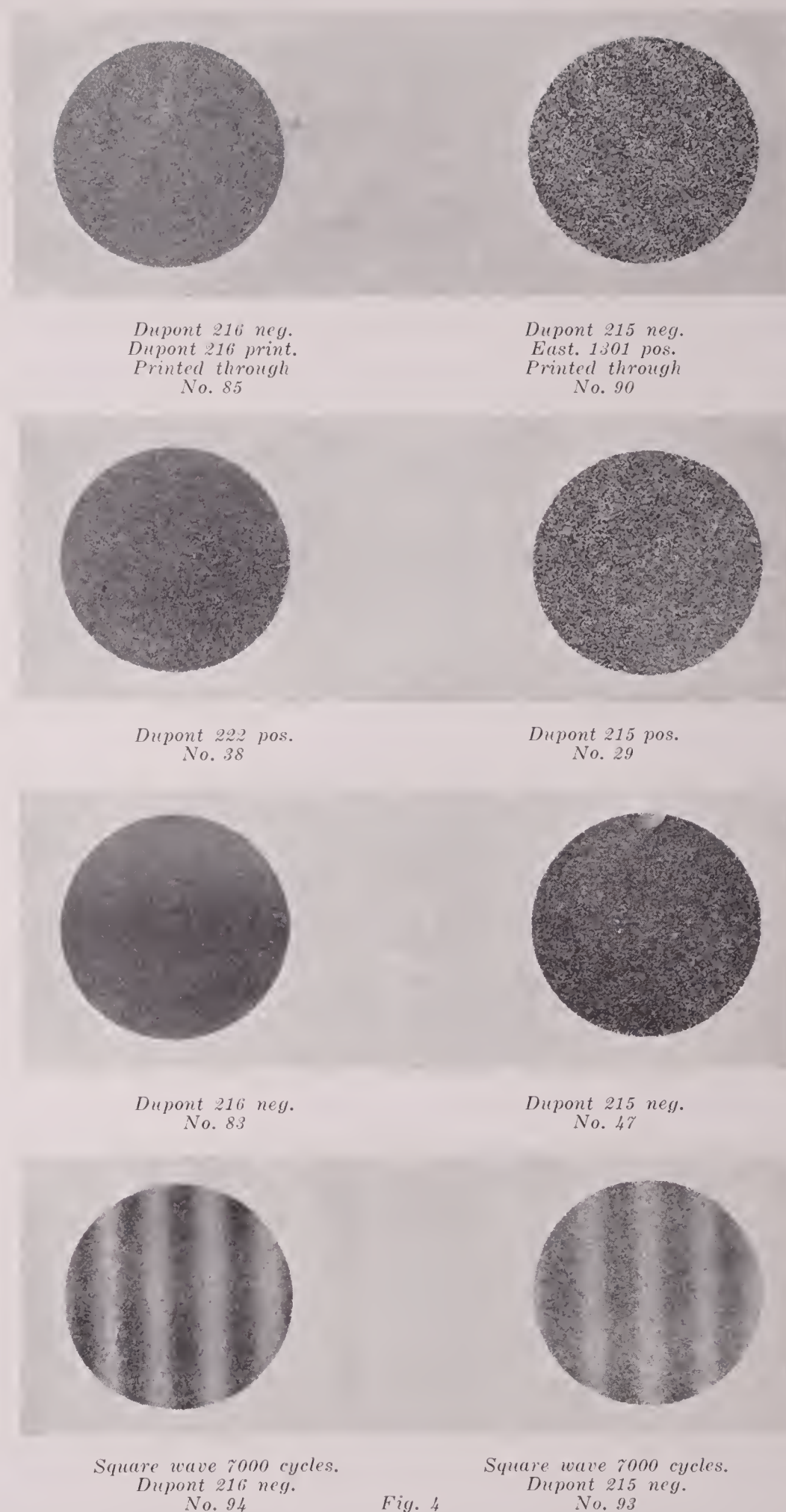
Where changes in printer light are made in the release print to secure changes in volume from scene to scene more latitude can be had where ultra violet printing is used and considerably less distortion will result in obtaining the desired volume range.

Ordinarily where original recorded material is rerecorded, the high frequency loss has been quite considerable, and where five grain film has replaced all four steps in original and release recording an improvement in the 8000 cycle signal to noise ratio has been obtained.

The various frequency response curves for different stocks are indicated in Fig. I. The top curve would also represent a 222 print as no difference in frequency response is noted between this type film and 1301 normal positive in an ultra violet print.

There is also an added increment in overall quality, due to the large reduction in background breathing when electric noise reduction is used. As a result, the intermodulation between film noise and the signal is much lower.

The type of mercury arc lamp which has been used to secure greater illumination than can be obtained by the Tungsten lamp, has been at 85 watt 250 volt lamp. When greater illumination is required than that which could be obtained from this lamp at 85 watts, a forced air stream is used around the quartz bulb so that it is possible to use the lamp at



200 to 300 watts with a considerable increase in illumination.

The illumination of the lamp is held constant by a motor fan the speed of which is controlled by the voltage drop of the arc.

Already several short subjects have

been released where fine grain film has been used in the original process and no electrical noise reduction was applied to the original negative which was of the wide push-pull pre-equalized type and its overall signal to noise ratio was

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Sparkuhl Tests New Weston

(Continued from Page 534)

diately tells whether the average overall illumination plus the reflective factors involved are or are not capable of giving the desired overall exposure, and hence the desired printing value.

Suit Own Technique

With this assured, the cinematographer may balance his lighting to suit his own technique and—more important yet—the photodramatic effect desired, entirely confident that his basic exposure value will remain such as to give the desired overall density.

To my mind, this method allows infinitely more complete control of the artistic variables of lighting, while maintaining the purely technical matter of overall exposure desirably free from variation.

Once the individual cinematographer has tabulated a system of this type, coordinated alike with his personal lighting technique and the standards of the laboratory processing his film, this use of a meter can speed and simplify his work.

If, as is so often the case, he prefers to do most of his work at a fairly constant lens aperture, all that is necessary is to build up the overall light-level until the desired reading on the meter's primary scale is obtained.

Then, without reference to the calculator, he can shoot his scene, confident that his overall exposure—and hence the

When T. E. Shea, engineering vice president of Electrical Research Products, Inc., arrived in Hollywood recently he was guest at a luncheon attended by sound department heads of several major studios. Among those present, left to right: Standing, Tom Moulton, United Artists; Loren L. Ryder, Paramount; E. H. Hansen, Twentieth Century-Fox; John P. Livadary, Columbia; Jack Whitney, General Service Studios. Seated, Vice President T. E. Shea, Clifford W. Smith, Hollywood vice president of Erpi, and Bernard Brown, Universal.

Photo by Pat Clark, Hollywood.

printing density—will be correct and consistent.

Balancing the light will remain, as it always should be, a matter of his own individual taste. Admittedly there could in some cases be sufficiently great errors in light-balancing to produce an erroneous overall meter reading; but among cinematographers of standing the possibility of such misjudgment is vanishingly small.

In general, the use of overall reflected-light meter readings of this type will, I believe, tend to minimize and simplify another routine cinematographic problem, while at the same time leaving the cinematographer the fullest freedom in expressing his individuality through lighting balance.

January Issue

THE American Cinematographer will start off 1940 with a bang. Among leaders already in type and itching to go are:

A fine story for professionals and amateurs on Photoelectric Exposure Metering by Captain Don Norwood, U.S.A., retired.

Making Modern Matte-Shots, Article II, by Byron Haskins, A.S.C.

A short technical article on Obtaining Increased Illumination for Fine Grain Film Recording, By O. L. Dupy and John K. Hilliard.

A helpful article by Edward Kearns, assistant cameraman, on how greatly to add to the speed and convenience of routine camerawork.

Chicago Cinema Club

The oldest incorporated amateur cinema club in the United States has a new board of officers, as follows: E. J. Hammae, president; J. R. Mollan, vice president; Lilly C. Thye, secretary; Sherman Arpp, treasurer; board of directors, H. W. Clark, Joseph Stout, Edward Bezazian and A. G. Diderickson.

United States exports of positive motion picture film decreased more than 27 million feet during the first nine months of the year as compared with the corresponding period of 1938, according to a study prepared by Nathan D. Golden.

M-G-M BUILDS UNIQUE CAMERA BOOM

By WILLIAM STULL, A.S.C.

WITH the popularization of the modern moving camera technique there has been an increasing trend toward the development of camera supporting units capable of serving as virtually a universal camera carriage for use not only in stationary but in most types of moving-camera shots. Obviously, questions of physical bulk and weight have been consistently limiting factors, as have those of operational facility.

Accordingly we have seen the evolution of two principal types. On the one hand there are a variety of small, mobile camera carriages such as the "rotambulator" and the "velocilator." On the opposite extreme are the much larger crane or boom type units capable of lifting a camera and its crew twenty or thirty feet into the air.

In some instances, intermediate sized cranes have been built; but in general various conditions of design and operational problems have limited their usefulness.

Nonetheless, it has been generally admitted that if some single device capable of fulfilling all the camera-carriage requirements of modern technique, with the exception of those few demanding the use of largest cranes, production would have gained a valuable tool.

Designed by Arnold

A new type of intermediate sized boom, apparently incorporating most of these desirable features, has been placed in service at the Metro-Goldwyn-Mayer studio. Designed by Camera Chief John Arnold, A.S.C., it features not only unusual versatility but highly advanced engineering design. In many respects it differs radically from all accepted practice.

The device is of the crane-arm or boom type, with a boom 9 feet in length

carrying an underslung camera mounting. The camera may literally be laid on the stage floor, or lifted to a maximum height of 16 feet. The entire boom arm may be raised or lowered bodily, by means of a motor-driven, helical hoist.

The boom arm rotates freely through a full 360 degree horizontal circle, while in addition the camera-head may, by an independent, extra quick-action pan movement, be panned through a full 360 degree circle. The tilthead likewise operates through a 360 degree vertical circle. The device is considerably lighter, and may be operated much easier than any comparable unit.

Radically new principles of construction have been employed throughout, and full use has been made of the modern, lightweight, high-tensile alloys and stainless steels.

Tubular Chassis

The chassis is of unusually simple tubular construction. Instead of the usual channel sections conventionally employed for this purpose, the main frame consists of a single tube of high-tensile steel.

Welded to this, at right angles, are two smaller tubes forming the axles. No springs are employed, as these devices are used invariably on special plank or metal tracks, and it has long since been found that any form of springing introduces an undesirable unsteadiness,

Camera Chief Arnold operates the quick-action pan on his new camera carriage. Note underslung camera mounting and inverted periscope on finder. Fourteen turns of the wheel under Arnold's hand pans camera through full circle; tilt also permits full-circle rotation.

especially with the camera at the end of a long boom.

All four wheels are fitted with solid-rubber truck tires, and are mounted in conventional steering knuckles. The rear wheels, however, are at present locked in a non-steerable position, though the design makes provision for rendering them steerable if any future need should arise.

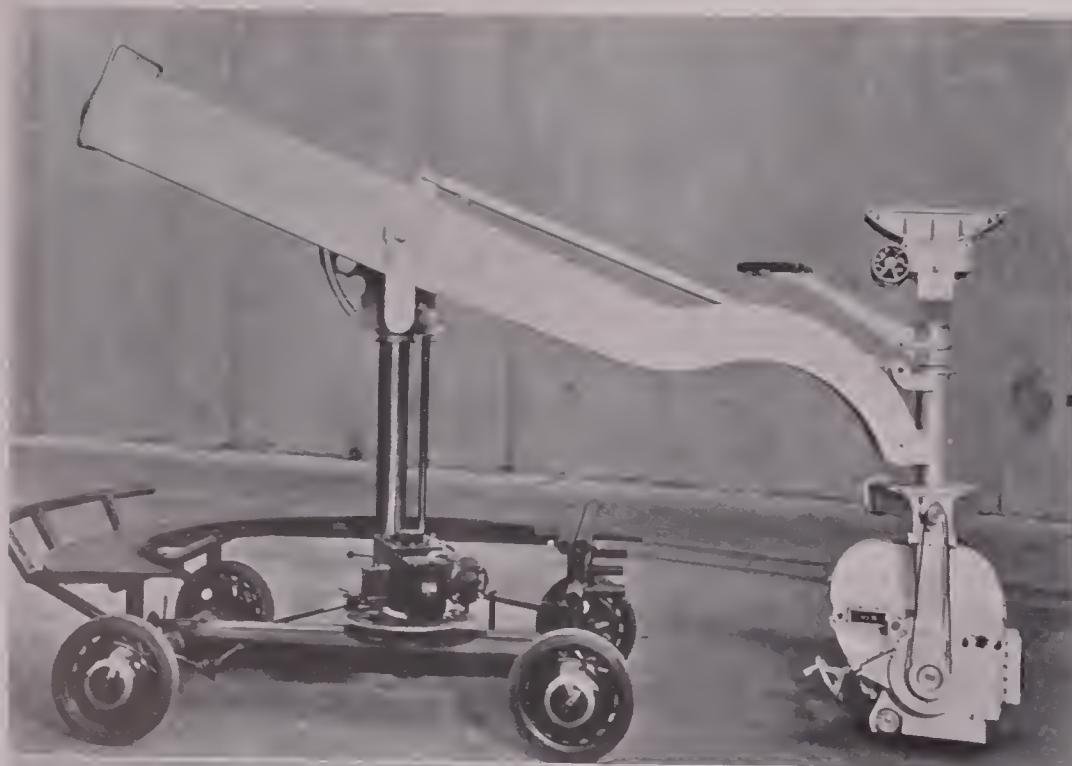
The front wheels are steerable, being controlled from an automobile-type steering wheel mounted before an underslung seat on the left side. The design is such that the steering wheels may be turned almost parallel with their axle, for sharp maneuvering.

A fifth wheel is provided at the rear of the tubular main frame. This may be dropped down to raise the rear end from the rear wheels, so that the device can be turned in its own length, or moved sideways into position. All four service wheels are ball-bearing equipped.

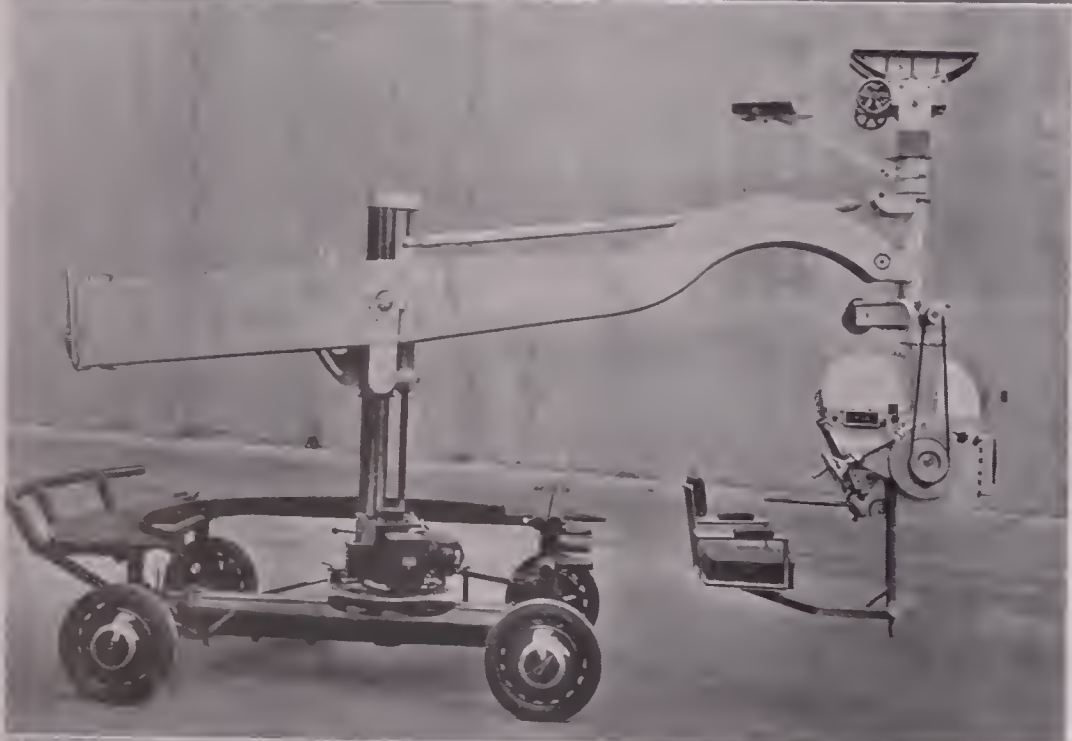
"Rotambulator" Type Hoist

Extending upward from this tubular frame is a tubular vertical member.





Top, with the new boom and underslung camera mounting, the camera may literally be lowered to the stage floor.



Center, at ordinary elevations the boom may be used in place of conventional tripod or perambulator, and leaves space around camera absolutely free. Note upper mounting for a second camera.



Bottom, at maximum elevation, the upper camera is sixteen feet above the ground. In this photograph, however, the boom arm has not been raised to the top of its hoist-travel. Note wheel at left end of boom by which counterweight is shifted for balancing purposes, and power-driven helical hoist to raise or lower entire boom-arm assembly. Photos by Durward Graybill and Frank Bjerring.

Upon this is mounted a power driven helical hoist strikingly similar to that employed in the "rotambulator"—another of Arnold's inventions, by the way.

The mounting of the crane arm slides up and down this main shaft in a friction mount. It is propelled upward or downward by a suitably proportioned screw paralleling the main shaft.

This screw or helix is rotated by a three-quarters h.p. D.C. motor which is controlled through a General Electric D.C. reversing circuit and controller. Automatic stop switches limit the upward and downward travel of this unit.

This hoist is not primarily intended for changing the height of the camera during a scene, but instead for more accurate positioning, after which the boom arm raises or lowers the camera. The drive, therefore, while quiet, is not noiseless. In addition, it is low-g geared, to simplify construction.

Stressed-skin Crane Arm

The crane arm itself embodies a type of construction never hitherto applied to this type of studio equipment. Instead of the conventional girder or box-truss construction, this arm employs a stressed-skin or "monococque" construction combining unusual rigidity with extremely light weight.

The arm is constructed of four ten-gauge sheets of high-tensile steel, welded together to form a long, tapering box girder. This boxlike construction is reinforced at approximately 6-inch intervals with transverse bulkheads of the same alloy, welded into place.

The result is a boom of unusually light weight, yet of remarkable strength. From an engineering viewpoint it is strikingly similar to the monococque fuselages of the most modern transport and racing airplanes, in which the bulk and weight of longitudinal girders are eliminated by a skin strong enough to withstand the stresses normally taken by longitudinal beams, and reinforced with stiffening transverse bulkheads.

Underslung Camera Mount

The outer end of the boom arm curves upward to afford increased clearance. At its end is the camera mount, which is of the underslung type.

(Continued on Page 572)

Reeves Builds 16-35mm. Developer

WITH the increasing use of 16mm. film, both in the form of reduction prints, dupe negatives and prints, and direct 16mm. negative and prints, many commercial and private laboratories are being confronted with the technical problems of handling both standard and sub-standard film with a minimum of equipment.

In large plants, these problems are minimized, since separate units, especially developing machines, can be devoted to each class of work. But in a majority of the plants doing such work, conditions seldom permit such a practice. It is highly desirable that such equipment be able to process both 35mm. and 16mm. film, and if possible both negative and positive, interchangeably. But several mechanical problems make this difficult.

Recent modifications in the design of the well known Art Reeves automatic developing machine are held to eliminate these difficulties, and to permit the machine to be used interchangeably for processing all types of film.

One of the outstanding practical problems has been simplifying the operation of rethreading the machine when changing from 35mm. to 16mm. film. In most conventional designs, this must be done by hand, involving both trouble and loss of time.

The rollers which carry the film through the machine are of recessed construction, with the standard film carried on the outer edges, and 16mm. riding within the recessed portion. Due

to this construction the 16mm. film, moving on what are in effect smaller rollers, travels at a lower speed than the 35mm. film.

Compensated Take-Up

Once the machine is completely threaded with film of either size, this differential is of no consequence: but when 16mm. is connected to a strand of 35mm. already in the machine, and the latter is used to pull the smaller film through the unit, a serious problem arises.

The take-up, which is proportioned to the travel of the larger film through the machine, tends to pull the strand through faster than the smaller roller-segments can feed the 16mm. film through. The result is usually enough tension to snap the strand.

In the Reeves machine this is now compensated by an additional film-loop between the dry-box and the take-up reel. This passes through a driving roller which is so interconnected with the drive and take-up reel that the take-up can only revolve at a speed coordinated with the lower peripheral speed of the rollers when threaded with 16mm. film.

Thus the take-up tension remains normal at all times. With this refinement, it is not only possible to use the

length of 35mm. film or leader in the machine to rethread it with 16mm. leader, but to clip a roll of 16mm. film to the end of a length of 35mm. film being processed, and to develop 16mm. and 35mm. consecutively, with no more delay than occurs in clipping a fresh roll of standard film to the end of the strand.

Wide Range of Developing-Times

The fact that 16mm. negative, for the best results, usually requires processing in solutions of greater fine-grain characteristics than those ordinarily used for 35mm. negative raises another problem. These ultra fine-grain developers almost always require a considerably longer developing time, often double that normally used for 35mm. negative.

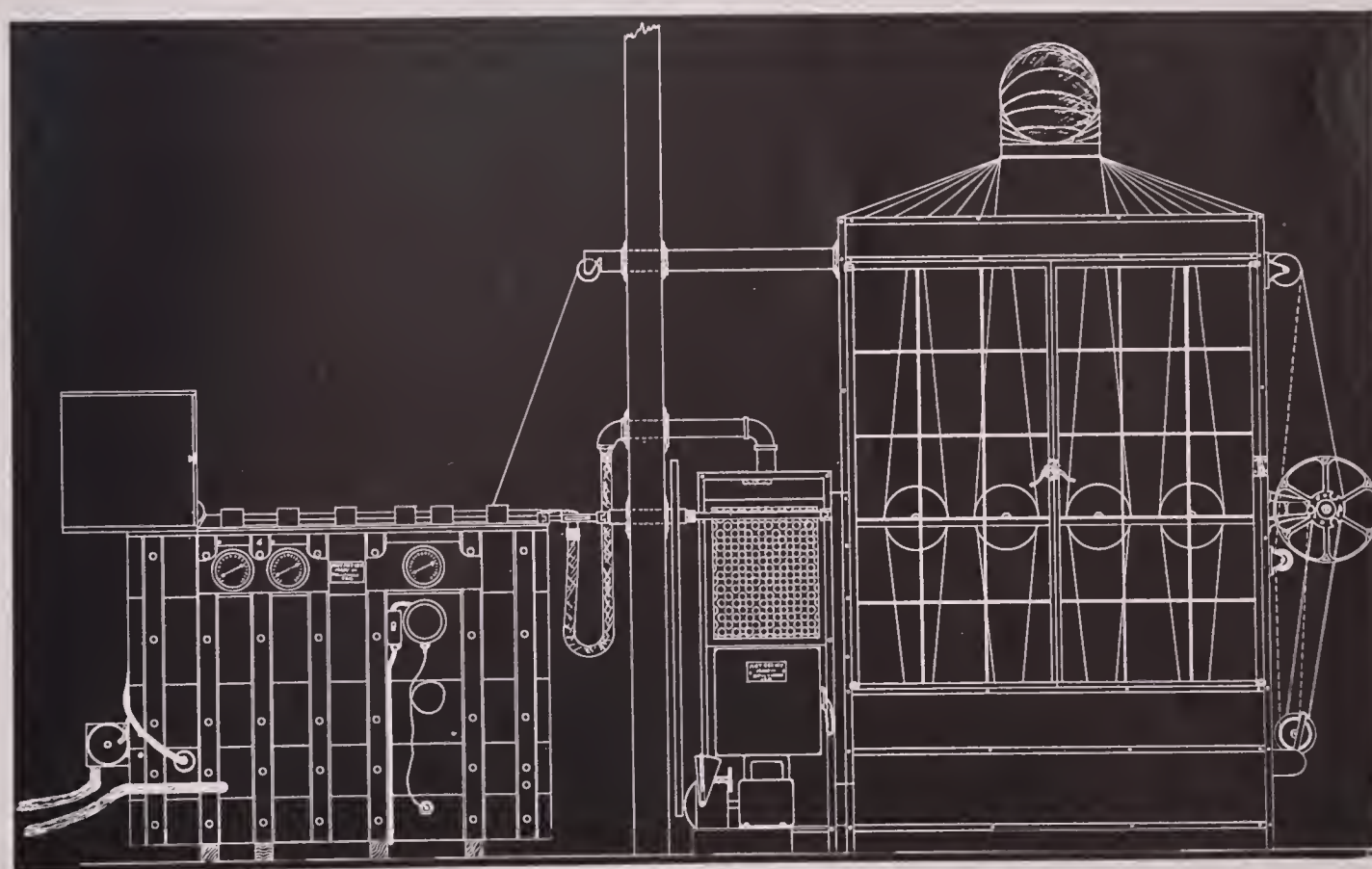
In the Reeves machine this type of specialized treatment is made more feasible by the use of an infinitely variable speed control. This consists of a special transmission-unit between the driving motor and the machine. It permits variation of developing time between two and 20 minutes.

The machine is further instantly interchangeable between positive and negative processing. Separate tanks are provided for the positive and negative solutions. Both of these sections are normally kept threaded at all times.

In the section not in use, the film leader is simply disconnected from the strand, and allowed to hang loosely in the tank, with the two ends held in

(Continued on Page 566)

Plan of Art Reeves inter-changeable 16mm.-35mm. developing machine. Dotted line at take-off end indicates path through compensating roller.



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Miller's 'Bluebird' to be Shown on Road

ARTHUR MILLER, A.S.C., finished work during November on Twentieth Century-Fox's production of "Bluebird," famous phantasy of Maurice Maeterlinck, Belgian writer. The cast was topped by Shirley Temple. The subject was made in a pretentious manner, befitting the elaborate stage presentation in New York at the Century Theatre thirty years ago and the rank of the author. Decision was reached during the past month by the production company that the picture will not be released in the usual manner. Rather so satisfied is the company of the picture's size it has determined to send it out as a road-show or special.

Miller, by the way, was the photographic winner of the Reporter's poll for September, taking the honors for his work in "The Rains Came." He won it in the face of stiffest competition.

"In photographing the story of 'The Rains Came' there were many elements entering into the problem," declared Miller when word of the award was handed him. "Of course, after you got about a quarter of the way into the picture the rains started and from that point they didn't do anything else but keep right on."

"That was but one side of it, though. There was a good story, and there was a good director, Clarence Brown, who is a nut for realism. Aside from that he has no particular likes."

"I did have a feeling now that you ask when working on the picture that I was doing a better job than had come my way in years."

"Let me put that in another way. I didn't feel that I was any way any better or any different from what I usually tried to do and to be, but really was taking advantage of the great number of opportunities that were being laid in my lap."

The making of a picture today is very much different from what it was when Arthur Miller started behind a camera. For that was quite a while ago, before the days of big companies. It was in the days before that of the cinematog-

rapher, when being a cameraman meant also working in the laboratory, of learning all the ins and outs of the business.

Thirty years ago a mere lad went to work for Herman Collie, who under the name of the Crescent Film Company had a small studio and lab in Prospect Avenue, Brooklyn, where at the same time, by the way, lived the man who is putting this tale on the typewriter—less than a mile away.

The company was affiliated with B. &

Hollywood Goes To South America

SOUTH AMERICA will not have to come to Hollywood to secure motion picture equipment. Hollywood is taking the equipment to South America. Lucio Villegas, who has been working in pictures for the last twelve years, has been commissioned by three prominent Hollywood firms to visit South America in the interest of these manufacturers.

The firms are Mitchell Camera Corporation, Art Reeves motion picture equipment, and the Mole-Richardson lamp and other equipment. Villegas is a native of Chile, and is well acquainted throughout South America. He will be gone four months and will visit Peru, Chile, Argentine and Brazil.

With the minor equipment the traveling representative is taking along so to speak with him he will be able to furnish complete studio and laboratory equipment to South American producers. K.—Baumann and Kessel in fact, in the



Arthur Miller, cameraman for Shirley Temple, relaxes in making of Twentieth-Fox's "Bluebird" as the little actress rehearses her lines.

earlier days well known to all acquainted with screen lore. Under Fred Balshofer, now living in Hollywood, the lad Miller was assigned to work at and around the camera and the laboratory.

The studio by day served as a beer garden at night. The furniture was used by day for the purpose of properties, by night for the comfort of the beer hall patrons. Pictures were shot in the daytime and developed and printed in the lab at night.

So much information had young Miller acquired through the training of Balshofer by 1911 that he was offered an opening by the Gaumont News—and which he accepted.

In 1912 he transferred to the Pathe Studio in Jersey City, where he photographed the serial, "The Perils of Pauline," featuring Pearl White. This was one of the earliest of serials. Crane Wilbur, hero of "Perils of Pauline," is now at the Warner Brothers' studio directing shorts.

George Fitzmaurice, one of the first scenario writers in any studio, was elevated to a directorship, and Miller was assigned to travel along with him. In 1919 Miller came to Hollywood with Fitzmaurice to work for Goldwyn. In 1925 he went to the C. B. DeMille studio, remaining for six years. After less than a year at Warner Brothers he removed in 1932 to his present home, at Twentieth Century-Fox.

Making Action Stills with Focal-Plane Synchro-Flash

By MILTON BROWN

*Still and Portrait Photographer
Metro-Goldwyn-Mayer Studios*

THE development of flash-globe synchronizers for use with inter-lens shutters undoubtedly marked an extremely notable advance in motion picture studio still photography. The introduction of the synchronized flash not only widened the scope of the stillman's

work, but improved the quality of many of his pictures which could conceivably have been made without the flash.

But great as was this advancement it left something to be desired. This was the use of synchro-flash technique for making extreme high-speed acting shots.

Ironically, this type of work is one which could perhaps most benefit by the use of synchronized flash exposures.

As is well known, the almost universal camera for making action stills is the 4x5 Speed Graphic. This is fitted with a Compur inter-lens shutter and a Graflex focal-plane shutter, which may be operated independently of each other.

In current synchro-flash work, the Compur shutter only has been used. This is quite satisfactory for most work, but by no means adequate for high-speed work. The maximum speed of this shutter is only 1/300th second, and in many studios it has been found wisest to restrict these exposures to a maximum of only 1/200th second, to guard against mechanical failures. Such speeds are obviously not always adequate for stopping really fast movement.

Shooting Dance Routines

Perhaps the most notable phase of this problem is that of making stills of the extremely fast-moving dance routines of such stars as Eleanor Powell and Fred Astaire. "Stopping" their movements demands high shutter speeds. This, in turn, requires more illumination than is ordinarily available on a set.

The most commonly used cine emulsions are Eastman Plus-X and the new DuPont Type II, both of which have a Weston artificial light speed rating of about 32. According to the methods of the individual director of photography involved, our sets are illuminated to give an exposure with these materials ranging from f.3.2 to f.2.3 at the fixed speed of 1/50th second.

While the still photographer has the slight advantage of using emulsions which, like Eastman's Super-Panchro Press, have an artificial light speed of Weston 64, this still is inadequate. The illumination-levels commonly used require a minimum exposure of from 1/30th second to 1/50th second at f.4.5—the average maximum aperture of still-camera lenses—and around 1/10 second when the lens is stopped down enough to give the required depth of field.

High Illumination Needed

Obviously, a tremendous increase in illumination would be needed to permit satisfactory speed stillwork. High as the illumination levels demanded for Technicolor or slow-motion cinematography may seem, they are not yet enough for high-speed still work of this type.

For instance, when we were making some boxing shorts with Max Baer, and had the set lit for extreme slow-motion cine work, I found that the minimum exposure I could give my stills was about 1/135th second; if I shot at even 1/150th

These synchro-flash stills of Fred Astaire are the first high-speed action shots of dance-routines actually made on the set. Note how the 1/550th second focal-plane synchronized flash exposure "stopped" even the rapid movement of hands and feet. Photo by Milton Brown.



second, my negative was too thin to be used.

The extremely high unit intensity of modern flash-globes—1,500,000 lumens or more—would obviously solve this problem. But since these globes could not be successfully synchronized with the focal-plane shutter, which alone gave the higher, movement-stopping speeds, the problem seemed very little nearer solution.

Since the introduction of the wire-filled type of flash-globes, which could be synchronized with the focal-plane shutters of miniature cameras like the Leica and Contax, there has been at least the possibility of using miniatures for this type of work.

But many of us have found these cameras impractical for studio still work. At M-G-M, for instance, we have come—from sad experience—to regard the 4x5 Graphic as the smallest practical camera for good studio still work.

Until recently, we have taken the only possible way out of the problem. We have made many productions which featured Eleanor Powell's nimble feet; and obviously, we had to have still pictures of her dance-routines.

Therefore she has performed her routines especially for the still cameras, on an outdoor set with white walls and a white floor, so that we could employ exposures fast enough to stop her motion.

Even so, it was frequently necessary to use a dozen or more reflectors to "fill in" shadows and give us the modeling light necessary for good photography. Facing such a battery of dazzling reflectors is difficult, even for the most willing troupers.

Miss Powell was no less eager than we for good pictures; but rarely, indeed, did we get a series of pictures that was not blemished by squints and blinks directly attributable to those blinding reflectors.

Use New Focal-Plane Gun

During the past few weeks, however, a new type of flash synchronizer has been developed, exclusively for synchronizing Graflex-type focal-plane shutters. This is the Kalart "Sistogun," invented by Philip DeL. Patterson and refined by newspaper photographer Ernest Sisto. It is the first practical synchronizer of this type to appear.

Needless to say, we have been experimenting with this new accessory; and the experiments have proved gratifyingly successful.

The Sistogun itself consists of a very simple contact mechanism actuated by the movement of the curtain-winding knob of the Graphic's focal-plane shutter. To be precise, the winding knob acts on a small, curved cam to hold the flash-firing contact open. As the knob

revolves with the shutter's normal travel, the knob slides off the cam, closing the contact.

The construction of the device is such that the contact is tensioned only by a very delicate hairspring, and so, since it contacts the shutter mechanism only at the start and finish of its travel, it cannot exert any braking or retarding action on the shutter.

An additional contact is actuated by a plunger operated by the shutter-release lever: only when both contacts are closed can the flash-globe be fired. Therefore even though the primary contact is closed when winding the shutter, the flash cannot be set off accidentally.

Adequate provision is made for adjusting the device for precise synchronization. Two separate adjustments are provided: one to compensate for any ordinary variations in the positioning of the winding knob; the other to secure absolute synchronization.

In some instances it may be necessary to make further compensation for shutters equipped with non-standard curtains or curtains of older types; but in general these devices may be fitted by any moderately experienced camera mechanic.

Synchronizing High Speeds

The Sistogun, we have found, is a natural complement to the conventional lens-shutter synchronizer. It may be used with any battery-box unit that has

or can be adapted to take the telephone-type connectors with which it is supplied.

Ordinarily it may be used with a battery-box of Kalart manufacture, using either 4½ or 9 volt batteries.

The conventional, inter-lens shutter synchronizers provide for normal synchro-flash work up to speeds around 1/200th second: we have found the new Sistogun, at least with the camera we have fitted it to, works excellently to speeds up to and including 1/1000th second. Thus we can now utilize virtually the entire range of speeds possible with the Graphic.

Perhaps the most notable of our tests of this device are a series of high-speed shots of Fred Astaire doing one of his dance routines from "The Broadway Melody of 1940." These are the first speed-shots of a dance routine we have ever been able to make on an actual interior set. They were made on the set, soon after the dance sequence had been filmed.

Movement Stopped "Cold"

The satisfactory exposure values of our still negatives are a tribute alike to the accuracy of the synchronizer and the illuminating power of modern flash-globes. They were made on Eastman Super-Panchro Press cut film, at an exposure of 1/550th second at f.8.

In some instances, some or all of the
(Continued on Page 564)



Speed-flash still of Fred Astaire in a dance routine from "Broadway Melody of 1940." Exposure, 1/550th second at f:8. Photo by Milton Brown.

REPRODUCTION OF FILM EXPOSED 40 YEARS AGO

SOME time since the editor of this magazine received from a theatre manager up in Idaho Falls, Idaho, a letter in which with its inclosure he was certainly interested. The message was from A. B. Hager, manager of the Rex Theatre of that town. The letterhead states the Rex is "playing the best in vaudeville, musical comedy and road shows and feature pictures" and that "we take motion pictures for advertising, commercial and educational purposes—cameramen will go anywhere."

With that brief introduction, setting the stage, so to speak, here is the letter:

"I saw some shots in an Eastern trade magazine a couple of weeks ago—that of Bill Hart, taken in 1914; also Cecil DeMille, looking through one of his first cameras with which he made 'The Squaw Man.' And the titles under those pictures sounded like ancient history.

"I am herewith inclosing you some clippings, which I found among my souvenirs, and which have a few years on the above-mentioned subjects. The cut-outs, which I am herewith inclosing, are of the Fitzsimmons-Jeffries fight pictures, taken June 2, 1899, at Coney Island, New York.

"Incidentally, these same pictures were shown in Los Angeles the same year, as my brother and I had a store show in Spring Street, between Second and Third. If you care to use these in your magazine you are welcome to do so, or possibly some of the ace cameramen in Hollywood would like to see how they made pictures forty years ago. At any rate, if you can't make use of them, file same in your wastebasket and we will still be friends."

Pre Fine Grain

The inclosures, of course, were the pictures here shown, positive prints of the historic scrap—and which, by the way, the editor was advised by a very wise and also very efficient photofinisher the chances were against a reproduction in the magazine. But last month we had occasion to inquire of the engraving department at Wolfer's plant if a negative could be produced from a couple of positive prints of motion picture film indicating the contrast between fine grain positive and pre-fine grain positive.

The answer promptly was returned "We can try." Reference to Page 487 of the November issue will show how that was accomplished. Which result caused the wily Bill Stull to inquire:

"If Wolfer's could do what they did with that fine grain stuff last month what is to stop them from doing the same with that positive from your friend up in Idaho Falls—that of the archaic prizefight?"

And so here it is. A slight reduction

in size was required. The film measured eight picas wide, which doubled up would have meant sixteen picas. In a fourteen-pica column it meant reducing sixteen to fourteen, which represents the difference between the reproduction and the original.

In the picture it will be noticed in the first column the somewhat bared crown of Fitzsimmons is shown facing the camera, while in the second column



Reduction from film of Fitzsimmons-Jeffries fight June 2, 1899, in Coney Island, New York.

Jeffries is shown walking toward the camera.

We do not know the name of the cameraman who exposed these pictures on that summer night forty years ago, but undoubtedly a recital of the incidents of the evening would make interesting reading.

To Mr. Hager, up there in Idaho Falls, we extend greeting—and thanks for the memory: for the reminder of his own good self; and of four thirsty New York Times printers, strolling around Coney Island on a night off—and sad to relate the night BEFORE payday—watching the crowds entering the auditorium; pooling issues, every last one of 'em—and keeping right on strolling.

Metropolitan, St. Paul

Harold E. Piggott, secretary of the Metropolitan Cine Club of St. Paul, sends to club members an attractive and readable bulletin at the first of each month.

In his November issue he states the Metropolitan is a year old and that the club now possesses thirty members. The club, he says, is the only one of its kind in the city, made up exclusively of men, and, he says further, "may we add men who really make moviemaking their hobby."

"Among the services rendered by members of our club during the past year," says Mr. Piggott, "are shows put on for 'shutins' at some of our hospitals; the F.B.I. Police training sound pictures were run for one continuous week, at Police Headquarters for the entire Police Department and the highway patrolmen; a 400-foot picture was made for the Goodwill Industries, which is and will be shown all winter to the various service clubs and churches, and for the Department of Education a 400-foot reel was taken of the Lindsey School for Crippled Children's annual picnic.

"A broadcast entitled 'Moviemaking for the Average Person' was made over Station WMIN, which was well received by the public.

"It has been decided to make a Club film, consisting of a series of 'gags.' Each member was requested to submit a gag which could be shot with one 'set,' the purpose of course being to give every member an opportunity to participate and thereby study lighting, make-up, camera technique, composition, editing and titling."

Cinema Club of San Francisco

The November meeting was held on the 21st at 1355 Market street and was divided between a showing of two Kodachrome pictures and a showing of Kodachrome slides. The pictures were "The Grand Canyon and Monterey Peninsula" by Member Russell A. Hanlon and "From the Mountains to the Sea" by Member Denis Donohoe.

There was selected a nominating committee of five to suggest officers and directors for the coming year.

Rise of the American Film

Lewis Jacobs in remarkable book names as tops
Melies, Porter, Griffith, Chaplin and Disney

The Rise of the American Film

By Lewis Jacobs. Harcourt, Brace & Co.,
383 Madison Avenue, New York.
585 pp. Illustrations, 48 pp. \$4.50.

LEWIS JACOBS has accomplished a great work in the writing of this book. He has begun at the beginning. Painstakingly he has pored over the one-time limited trade papers, film catalogues, heralds, etc. By means of these he has kept track of all the moves and changes, he has given importance to actions that at the time of their happenings were not regarded as of importance.

He has given credit for things accomplished to men long forgotten. He renews permanently to memory the names of many men and some women who might have been passed by in the quick changes.

Particularly difficult is it going to be to give a fair resume of the multitude of things that he relates. And this is a good place to say that for those who have been at all active at any time in the past thirty or thirty-five years around the picture business they are not going to be happy unless they own and have stowed away in their own homes a copy of this book, and that goes just the same if all these years they have been on the outside. That's how good it is; the best yet.

Mr. Jacobs in his Acknowledgment records his thanks to those persons who have given him valuable assistance in the preparation of the book. In particular he mentions Miss Lillian Willis, as well as Miss Iris Barry, Jay Leyda and Miss Helen Grey of the Museum of Modern Art Film Library. It was the Museum which gave the author the privilege of reviewing films of the past in its collection, for which previously there had been no agency in existence.

Another factor which aided in the compiling of the book were the files used by the Federal Writers' Project in New York which made accessible the work of the Motion Picture Bibliography unit in the compilation of the first volume of the Film Index.

A better conception of the extensive contents of the book will be had by perusing the following list:

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Part One FADE-IN (1896-1903)

1. First Stages: Trade, Technique, Pictures
2. George Melies: "Artificially Arranged Scenes"

Part Two FOUNDATIONS (1903-1908)

3. Art: Edwin S. Porter and the Editing Principle
4. Business: Toward National Expansion
5. Social: First American Story Films

Part Three DEVELOPMENT (1908-1914)

6. The Struggle for Control
7. D. W. Griffith: New Discoveries
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10. Large-Scale Operations
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12. Toward Style
13. Charles Chaplin: Individualist
14. Movies in the World War
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Part Five INTENSIFICATION (1919-1929)

16. Big Business
17. Additions to Film Art
18. A Throng of Directors
19. The Decline of D. W. Griffith
20. Films of the Post-War Decade

Part Six MATURITY (1929-1939)

21. New Affiliations and Consolidations
22. Refinements in Technique
23. Contemporary Directors
24. Walt Disney: Virtuoso
25. Significant Contemporary Film Content

Pulses Quickened

Iris Barry says in her preface that hundreds of motion pictures are made each year, tons of newsprint commend them, millions of people see them. And there in a sense, she goes on, "the whole thing comes to an end: The films disappear from sight, leaving behind little more than the wholly incalculable effect they have had on their multitudinous audiences.

"Astronomical numbers of tears have been shed, pulses have quickened, unrealized associations have been set up, but a medium that bears so transient an appearance does not readily enjoy respect or provoke reflection, since it is about as difficult to compare one dream with another as to measure film against film in recollection.

"The liveliest and most popular art of the twentieth century, however, deserves better than this. Politics and history itself are ephemeral, but are

not ill-considered or neglected for that reason: and for that reason the motion picture is by no means an inconsiderable element in contemporary society. More than this, in a most curious and striking way the film actually reflects contemporary history as it flows.

"The Rise of the American Film' is really a romance. It is the colorful tale of as typical a group of Americans as one could hope to hear of, men and women of every possible kind of nature and origin irresistibly drawn into a new kind of creative expression suited to a machine age."

Shakespeare's Birthday

It may be of passing interest to remark that the moving picture as we know it was seen for the first time in America on April 23, 1896. April 23 may be recalled as the date usually ascribed as the birthday of Shakespeare. It was an auspicious date, as has been amply demonstrated.

The scene was Koster & Bial's Music Hall in New York. There were shown, as reported in the New York Times, "two precious blond young persons of the variety stage, in pink and blue dresses, doing the umbrella dance with commendable celerity. Their motions were all clearly defined. When they vanished a view of the angry surf breaking on a sandy beach near a stone pier amazed the spectators.

"A burlesque boxing match between a tall, thin comedian and a short, fat one, a comic allegory called 'The Monroe Doctrine,' an instant of motion in Hoyt's farce 'The Milk White Flag,' repeated over and over again, and a skirt dance by a tall blond completed the views, which were all wonderfully real and singularly exhilarating."

To Thomas L. Tally of Los Angeles is given the credit for leading the way in establishing moving pictures as distinct feature attractions. In 1902 he began exhibiting films only, charging 10 cents admission, advertising "The Electric Theatre. For Up-to-Date High Class Motion Picture Entertainment Especially for Ladies and Children."

Six Cameramen

In the beginning pictures were made in the streets. There were no studios, and about the only "offices" required were those devoted to a laboratory. According to Jacobs, and writing with entire truth, the making of pictures depended entirely upon the ingenuity and ability of the cameraman. He was director, photographer, laboratory expert and sometimes even the leading actor.

Charles Chaplin: Individualist

TO think of Charles Chaplin is to think of the movies. Yet this unique actor, director and producer has added little to movie technique or movie form. He has been not a technician but a pantomimist, a commentator, a satirist, a social critic. His artistic problems have not been cinematic; they have been personal, always being solved by feeling. His importance lies not in what he has contributed to film art, but in what he has contributed to humanity.

If he is negligible as a movie craftsman, if he has evolved no new formal aspects to enrich the medium, he has created many moments to enrich society. Chaplin will always be known for his social outlook, his insight into human nature, his pantomimic skill, his ingenious development of the incident, and his evocation of a mood. It is these qualities rather than any plastic contributions which have made him significant as a screen artist.

In the history of the American film no other single personality has so endeared himself to the world as Charlie Chaplin. His presence is as much alive as ever in the thousands of 16mm. revivals of his work. Every generation takes him to its heart anew. As with all great characters, one sees in Chaplin what one brings to him. Children love him for his humor; adults are moved by deeper meanings, too.

Every man recognizes in Chaplin's experiences his own dreams, illusions, problems, disappointments. This little tramp does what most of us would like to do and see ourselves as doing, but yet cannot bring ourselves to do. His frustrations are mankind's; his successes, universal triumphs.

When he laughs, races and nations shout with him; when he is sad, a sorrowful wail encircles the globe. So readily can his slightest gesture evoke human emotions that he can be truly called the film's miracle man.

Walt Disney: Virtuoso

OF all the directors in motion pictures today, Walt Disney is perhaps the most renowned and acclaimed. Undaunted by Hollywood superstitions, undeterred by money needs, Disney has brought to American films a personal touch, a zeal for quality, an appreciation of artistry, and a disdain that is almost a fear of the "formula" picture. That his convictions have been matched by a distinct talent has been aptly and fortunately proved.

Disney has made his animated cartoon perhaps the finest expression of motion picture art in contemporary America: this despite the fact that so far only one of the hundreds of Disney cartoons has been of considerable length. His pieces have brought unanimous praise from artists, intellectuals, children, workers and everyday people the world over, being singled out even above superior dramatic films.

In the realm of films that combine sight, sound and color Disney is still unsurpassed. The wise heir of forty years of film tradition, he consummates the cinematic contributions of Melies, Porter, Griffith and the Europeans. He has done more with the film medium since it added sound and color than any other director, creating a form that is of great and vital consequence not only for what it is but for what it portends. He is the first of the sight-sound-color film virtuosos, and the fact that he is still young and still developing makes him an exciting and important figure to watch.

Disney not only is the pace setter in his own particular specialty, cartoon animation, but in skill and imagination he outranks even the craftsmen in the realistic story-telling business. His remarkable ability to produce hit after hit without repeating himself or consolidating his successes into cliches speaks for his integrity as well as his ambition.

No one knows how far, under the circumstances, Disney may yet go—or if, perhaps, he now is in his prime.

*Opening of respective chapters on Chaplin and Disney in Lewis Jacob's
"The Rise of the American Film"*

"In these early years," says the author, "America had few movie cameramen—at most six. Three of these were to become important figures in the history of American motion pictures: Edwin S. Porter of the Edison Company, soon to become the leading directorial figure in the American screen world; J. Stuart Blackton of the Vitagraph Company, later an outstanding pioneer director; Billy Bitzer of Biograph, yet to be famed as the cameraman of D. W. Griffith.

"The first cameraman to show individuality of technique was none of these three Americans, however, but George Melies (Me-lee-ays) in France. His films, particularly those from 1900 on, pointed the way for a creative technique and led to the discovery of film dramatization, which was to change the whole course of moviemaking."

The early cameraman's problem was to get a picture. His equipment was bulky, and was prone to get out of order. Conveying it from point to point was a job. Once set up, it was seldom changed for another view. The earliest record of "panning" was in an Edison Catalogue for 1901-02 and was listed as a "Panoramic View":

"New York in a Blizzard — Our camera is revolved from right to left and takes in Madison Square, Madison Square Garden, looks up Broadway from south to north, passes the Fifth Avenue Hotel and ends looking down 23d Street West."

Porter's "The Life of an American Fireman," 1902, and "The Great Train Robbery," 1904, are both treated at length. The author points out these two pictures assured the permanence of the movies. These were followed in 1906 with "The Dream of a Rarebit Fiend," in which technical photographic tricks lifted it to a level which no other picture had attained up to that time.

"Rarebit" Advanced

Porter undoubtedly was stimulated by Melies' work, but his "Rarebit" had a cinematic style more advanced and distinguished than the Frenchman's. Both men had used a variety of camera devices—stop motion, double exposure, masking, moving camera, dissolves—but it was Porter's knowledge of editing that gave his effects a fluency and rhythm lacking in others.

In the early days it had been the

cameraman who directed. Gradually the latter's work was to become specialized and the director's broadened. One of the first directors other than Porter and Blackton was Sidney Olcott, formerly an actor, who in 1923 was selected as one of America's ten best directors. Also there were J. Searle Dawley, also an actor; Francis Boggs of Selig, from the stage, and Arthur Hotaling, with Pop Lubin since his peddling days.

The screen identification or at least the mentioning of the cameraman began about 1913, when Biograph named Billy Bitzer for his photography.

David Wark Griffith, who first acted in the movies in 1907 under the name of Lawrence (Larry) Griffith, concealing his own name until such time as he became famous if it should prove he was to be, directed his first pictures in 1908. In these he instituted several camera effects which not only have been in use ever since but probably always will be.

After making half a dozen pictures Griffith was moved to try some changes. He had been getting his bearings, so to speak. He was the first to change the custom of shooting without re-

hearsal, insisting upon the "waste of time," as it was considered, the "once-again" idea as it was to become known.

He now determined to try experiments. He took Jack London's "Just Meat," changing its title to "For Love of Gold." It was necessary to show the point, to make clear to the audience, at which the two thieves of the story began to suspect the other: the double exposure.

Birth of Full Shot

It was a convention that had grown up the camera always must be fixed at a viewpoint corresponding to that of a spectator in a theatre (the position known as the long shot); the other, that a scene had to be played in its entirety before another was begun (this was a direct carry-over from the stage).

Griffith decided now upon a revolutionary step. He moved the camera closer to the actor, in what is now known as the full shot, so that the actor's pantomime would be better visible to the audience.

It really was revolutionary at that time. It established the mobility of the camera, it made possible the breaking up of the scene into different shots, it made entirely unnecessary the former extravagant, unnatural and ridiculous gestures on the part of the actors.

For the next three months the full shot became a part of Griffith's repertory. In November 1908 after considerable thought Griffith went further. Although a closeup had been employed by Porter in "The Great Train Robbery" some five years before it had not been employed in the meantime.

In a screen adaptation of Tennyson's "Enoch Arden" by Frank Woods Griffith shocked the studio force by employing a closeup of Annie Lee's face as she awaited her husband's return. He followed this by an insert of a picture of the object of her thoughts—her husband cast away on a desert isle.

Criticism descended. To the charge it was jerky and distracting Griffith retorted that Dickens wrote that way. Biograph still was worried and continued so to be until the picture was sent out. Then to the company's surprise it was discovered the production had been singled out as a masterpiece and proved to be among the first American films honored by foreign markets as worthy of importation.

The positions of the cutback as well as of the closeup were secure.

Lighting in "Pippa Passes"

There is a story of Griffith's successful attempt at lighting in "Pippa Passes" well worth the reading, how he made morning, noon, evening, night.

Like the screen writer, the motion picture cameraman was called upon to develop and refine his work. As photography itself became a more responsible job division of labor became common; the laboratory work was now done by

the cameraman's subordinates under his supervision. That the cameraman, now a man of position, wielded great influence in production is pointed out by Gene Gauntier, Kalem writer and actress of that day:

"It was the cameraman who held down the temperamental director and usually had the final authority on what could or could not be done. . . . Even as late as 1915 at Universal . . . there was a brief interval when the cameraman was given full authority over all phases of production."

Camera technique depended on good lighting and sensitive films, declares the author. "Lighting had been a most difficult problem," he goes on, "and it remained one as the practice of manufacturing movies in studios spread. The mercury-vapor lamps threw off a cold, hard light which bared every flaw in the scene and could not be balanced for tonal effects. Many attempts were made, notably by Griffith, to dramatize lighting to enhance the story, but progress was slow and difficult. As for the raw film stock it still remained 'contrasty' and slow; it could not register subtleties in tone."

As new companies went into production more cameramen entered the field. Henry Marvin, Max Schneider, Herman O'Brock and H. Lyman Broening were notable. Others, too, became famous. William Bitzer made successes out of Griffith's "crazy schemes." Tony Gaudio, cameraman for Laemmle, had a less creative director to work under, but was perhaps more sensitive to the variability of the medium and lasted longer than Bitzer in the industry. (He is still going like a house afire.—Ed.)

"Working with many directors, E. Cronjager, Charles Rosher, Faxon Dean, Victor Milner and John Seitz also made their start and today are still esteemed for their work."

"Cameramen today grapple less with engineering problems than with those of pictorial design and photographic values," says Jacobs. "Many have gained reputations not only as skillful craftsmen but as artists in their own right, a few have a style which often is the outstanding merit of a film."

"Cameramen work in groups of three: the first composes the lights and scene, the next, the operative cameraman, actually shoots the scene, and the third assists him. Often pictures employ several crews at one time."

"Of the hundreds of cameramen active now, many of the leaders have come up from the 'silent' days. New talent that have emerged are Karl Freund (The Good Earth, Camille), Karl Struss (Sunrise, Dr. Jekyll and Mr. Hyde), Leon Shamroy (You Only Live Once), James Wong Howe (Viva Villa, The Thin Man), Rudolph Mate (The Passion of Joan of Arc, Dodsworth), Ted Tetzlaff (My Man Godfrey, Swing High, Swing Low), Gregg Toland (We Live Again, Wedding Night), Ernest Haller (The Journal of a Crime, The Key), Ray June (Arrow-smith, Treasure Island), Joe Valentine

(Three Smart Girls, One Hundred Men and a Girl).

"Other prominent cameramen are Ernest Palmer, Arthur Miller, Arthur Edson, Floyd Crosby, Sol Polito, Leo Tovar, George Folsey and Joe Walker."

The author speaking of special effects technique says today Hollywood cameramen can reproduce practically anything in nature, as well as anything imagination can conceive.

Camera in "The Birth"

Much space is devoted to "The Birth of a Nation." The author says all of Griffith's earlier experiments are here consolidated—the use of the camera to build scenes, the pacing of shots, the sensitive manipulation of camera devices for transitions, simultaneous action, movement of all kinds—all fused by brilliant cutting, "demonstrating an unusual mastery of the movie medium."

During these years (1914-18) the cameraman was edged into the background by the star, the director and the scenarist, declares the author. "But Bitzer's work in 'Judith of Bethulia,' 'The Birth of a Nation' and 'Intolerance,' and the encouragement of various directors, awoke cameramen to the possibilities of their craft. They applied themselves energetically to experimentation—to composition, to lighting, and to developing the mechanical devices of the camera itself."

"After the war a number of former Signal Corps cameramen, including Victor Fleming, George Hill, Ernest Schoedsack, Joseph Von Sternberg, Alan Crosland and Wesley Ruggles became movie directors. . . .

"The first attempts to model with light—to bring out the best features of the players, to emphasize character, to reduce the prominence of irrelevant effects—were begun. Bert Glennon, Victor Milner, Sol Polito, Charles Rosher, John Arnold and Joe August were all experimenting with the mercury-vapor lamps then in use to make them more adaptable to modeling."

Diffusion Era

The author tells of the wide use that was being made of diffusion, to soften the physical defects of players. Gauzing the lens therefore became a usual practice. Alvin Wyckoff, Cecil De Mille's cameraman, introduced a spotlight effect ("Rembrandt" lighting) to create strong dramatic contrasts.

"The Rise of the American Film" contains over 225,000 words. Not any of them are wasted. They make good reading, interesting reading. It is reading the like of which it is quite certain no one will have found before—the story of the real men who made the pictures possible and the men who did the actual work.

It is a scholarly book, made rich by research. Lewis Jacobs easily is a hound for punishment, and he has taken a lot of it that the world may have a work on which it may rely.

It will go far to educate those who talk wisely of "appreciation" G. B.

NOW IN SECOND SUCCESSFUL YEAR

ANNOUNCED over a year ago, Eastman's three new negative films scored an instant success. Today, Plus-X, Super-XX, and Background-X are firmly established favorites. Throughout the industry their unrivalled photographic quality and trustworthy uniformity receive well-merited acclaim. Eastman Kodak Co., Rochester, N.Y. (J.E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN

PLUS-X

for general studio use

SUPER-XX

for all difficult shots

BACKGROUND-X

for backgrounds and general exterior work

Smoothing Scene Transitions

By ORMAL I. SPRUNGMAN

Photographs by the writer unless otherwise noted

Ray Rieschl, Minneapolis moviemaker, is shown with an 8mm. camera revamped with Wind-Bak for trick effects. Note fading rod lever with ring slipped over lens barrel.



IF your movie camera isn't equipped to fade, wipe, dissolve, iris, or just plumb shoot single frames, don't envy the owners of costlier stuff. Today, most any 8mm. or 16mm. outfit which shoots acceptable pictures can be revamped or rebuilt to provide most any trick at a price quite within reach of most any pocketbook.

Perhaps the one thing, above all else, that quickly characterizes the amateur movie is the abruptness or apparent choppiness which marks the break between two consecutive and often unrelated scenes. Here, for instance, is a typical long shot of some snow-dunked evergreens, followed by an immediate closeup of a youngster cupping a snowball, and then a homemade snow man pops into view.

The jump from one scene to the next is a bit disturbing. Such scene transitions could better be handled by fading in on the first snow scene, dissolving to the next, wiping off to reveal the snowball-snow man sequence, and finally fading out.

Several Methods

The fade is perhaps the best known method of handling scene transition, and many amateurs have been using it for years. There are two types of fades: the

fadein where the darkened screen gradually grows brighter until the pictured image reaches its correct luminosity; and the *fadeout*, which is just the reverse.

Any one of several methods may be employed in making the fade. Simplest is to close down the lens aperture slowly to its smallest stop after sufficient footage has run off on the scene at hand.

This gives a satisfactory fadeout when shooting is done at the larger apertures ranging from f.3.5 to f.1.9, but when the scene being filmed requires a small aperture, say, f.8 or f.11, the fade to f.16 is hardly noticeable.

Some cameras, of course, have apertures which close entirely to give the ideal effect, but for those outfits not thus equipped the fade can be completed by lowering the hand or a piece of black cardboard over the lens after the aperture has been cut down to its smallest stop.

The fadein, naturally, is made in the opposite manner.

A fading glass is a handy accessory for securing the same effect. This consists of a rectangle of glass, slightly wider than the diameter of the lens barrel. One end of the glass is transparent, the other is opaque.

Smoked glasslike gradations run from the transparent area to the opaque, the

general effect being that of reducing or increasing the brightness of the image as the glass is passed horizontally in front of the lens. Such fading glasses sell for around \$2.

Clubmen Invent

Paul Frantzich, treasurer of the Minneapolis Cine Club, has evolved his own fading glass after considerable experimentation. He exposed a piece of sensitized film to light in such manner that one end would be overexposed, while the other would be unexposed, with full gradations between.

Then he mounted the film between glass plates and taped the edges for final protection. The homemade glass provides all the fadeins and fadeouts he needs for his 8mm. movies.

Rome Riebeth, editor of the Cine Clubber, monthly mouthpiece of the Minneapolis Cine Club, has made a satisfactory vignetter for his 8mm. camera by revamping the iris of a discarded still camera so that he could get circle-in and circle-out fades by simply opening or closing down the aperture mounted inside the lens collar.

A comparatively new fading device now on the market is the Wesco Fadette,* which fits all 8mm. and 16mm. cameras, and produces not a circular but



L. L. Harmon, St. Paul watchmaker, inventor of a wind-back for Eastman 8mm. movie camera, is shown with a special cable release-self timer attachment he uses for taking self-movies.
—Harmon photo

The Harmon Windback is seen installed on an 8mm. Eastman camera. Note special crank. Second finger of left hand presses film release button.
—Harmon photo

The Wesco Fadette, only vignetter to give an oblong fade, is shown installed. Operated by a cable release, the device has only five moving parts. It is easily removed.

an oblong fade. In other words, the actual shape of the movie frame is retained as it diminishes throughout the entire fade.

Well constructed, of light bakelite, the device has only five moving parts, and it is manually operated by a cable release at any speed desired by the operator of the camera.

The Fadette sells for \$5.95, and serves as a sunshade and filter holder as well as a vignetter. A set of three double masks is also available.

As Simple as That

Sometimes it is possible to manipulate "props" right out on location to give fading effects. For instance, you can fadein by shooting through a curtained window while someone out of camera range slowly raises the shade.

You can fadeout on a camping movie by setting up your camera on a tripod inside a darkened cabin, with the lens pointing at the doorway.

Slowly closing the door while shooting will result in a unique fade.

Another method which the writer has used in his fishing films for fadein is placing the angler with back against camera lens, and shooting as he walks away. For such a scene, the lens is usually set at universal focus. The dark-light screen effect in this case is startling as well as unique.

While the fade marks the beginning or end of a movie sequence, the lap-dissolve is employed to slow lapse of time, for spanning space, or changing from a long shot to a medium shot or closeup.

The dissolve is obtained by fading out on one scene, back-winding the film for the duration of the fade, and fading in on the new scene. This gives the impression of one scene fading out as another superimposed on top of it begins to grow brighter, finally replacing the former scene entirely.

The Works for 8mm.

Only the costly cameras are equipped for backwinding film, and this unique effect would be impossible for those who own less expensive outfits if it were not for the practical-mindedness of several midwest inventors.

Ray Rieschl, professional sign writer,

Closeup shows calibrated dial of Cine-Transito. Pressure on center button while motor is running causes fade or wipe disc mounted on end of protruding shaft to revolve automatically and give desired effect.

Baia's Cine-Transito is pictured with wipeoff disc, made of dull black painted metal. Reversing position of disc on shaft gives wipe in opposite direction.

Circular fading disc revolves before lens from opaque to transparent area for fadein, or vice versa for fadeout. Cine-Transito is detachable, and does not interfere with camera mechanism.

8mm. Filmo enthusiast, and member of the Minneapolis Cine Club, has devised and patented a revolutionary yet inexpensive attachment for Bell & Howell 8mm. movie cameras, which permits fades, cut-aways, wipes, dissolves, ghosts, and other professional effects.

The "Wind-Bak,"† which is completely installed for less than \$20, consists of a film release lever and a calibrated turning knob, which is mounted in the camera cover so as to engage indentions in the film spool when necessary.

Both lever and knob are built right into the camera itself without changing the design or interfering with motor mechanism. Normally, the wind-back knob is pulled out so that the spool runs free.

A demountable fading rod is fitted over the front lens barrel, the metal arm acting as a set screw to hold the ring to the barrel. The purpose of the rod is to simplify and smooth the work of turning the lens barrel to fadeout or fadein by reducing or increasing the size of the lens opening.

To dissolve, turn the fading rod until the scene fades out, first noting the footage reading at the start of the fade, then stop the camera. Push in the wind-back knob to engage the film spool, and pull out the film release lever.

This is located just below the lens, and disengages the claw from the sprocket holes in the film while the film is passed backward through the gate.

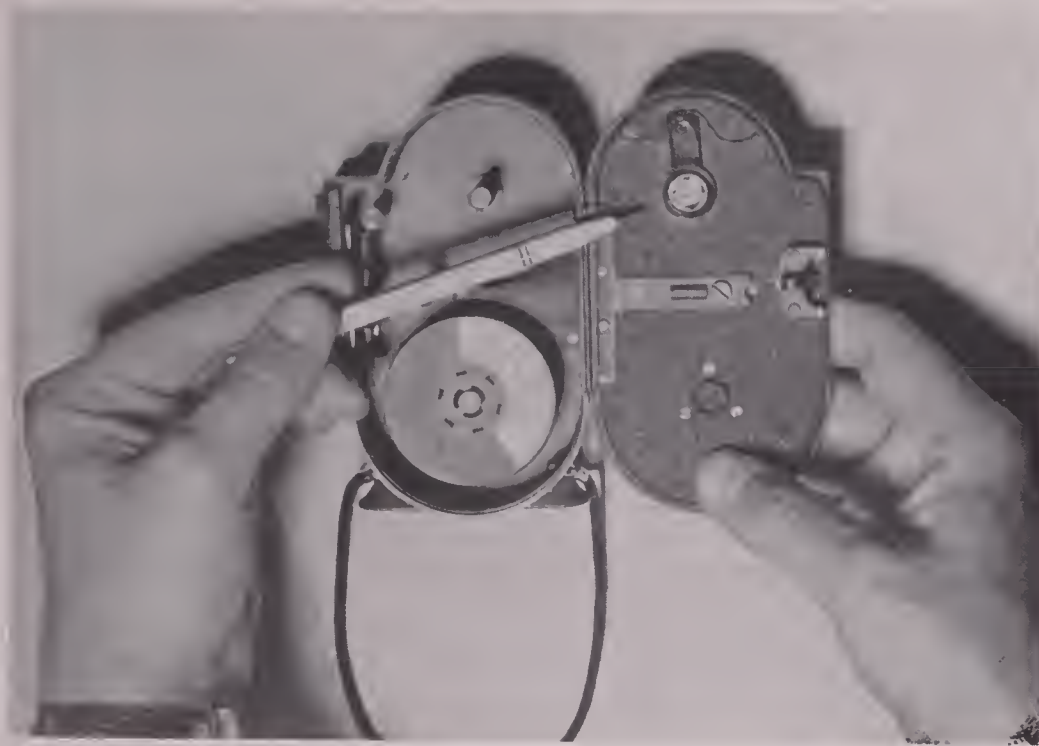
To Dissolve

Since the amount of film on the reel controls the number of turns of the wind-back knob—varying from $2\frac{1}{2}$ to $3\frac{1}{2}$ turns per foot—a scale on the camera is consulted to insure absolute accuracy. The winding knob is also calibrated from A to Z to aid in resetting.

The knob is turned counter-clockwise and pulled out to disengage the spool. Then the film release lever in front is pushed in, and the fadein is produced by increasing the lens aperture to normal exposure by means of the handy fading rod. The position of the rod in the camera view finder indicates the proper lens setting.

Unlike other reversing mechanisms, this unique wind-back will rewind any amount of footage, from one frame to a whole roll of film. When the film





Inside of movie camera. Pencil points to clutch behind wind-back knob which engages film spool when pushed in. Film release lever on front of camera disengages claw from sprocket holes in film to permit backward movement of film. One frame or whole roll of film may be rewound at one time.

release lever is out, the camera is automatically locked as a warning to the operator.

The exact length of the fade can also be determined by counting seconds, one foot of 8mm. film passing through the camera in about five seconds. If longer fades are desired, more footage is allowed during fading, and proportionately more is wound back. The device is also useful for trick titling.

Working independently, L. L. Harmon, St. Paul watchmaker, 8mm. movie fan, and a member of the St. Paul Movie Making Club, has evolved the Harmon Windback† for Eastman Cine-Eights, Models 20, 25 and 60. Selling for \$12 installed, the device has no parts which run with the camera during picture-taking. Consequently, there is no change of camera speed.

Maker of Comedy, Too

"Each turn of the specially installed crank is one frame," Mr. Harmon pointed out. "To wind back, simply push the film release forward, push in on the crank, and wind back. I use a fading glass for dissolves, making a three second fade, then winding back fifty frames and fading in. On my own camera, however, I have changed the aperture so that I can close it way down for a complete fade.

"I have installed a cable release for use with a self-timer, which saw plenty of use last summer on a camping trip I took with my six year old son. Since we had no one to take our pictures in the camp scenes, we would set up the camera, pointing at the field of action, set the timer, and walk into the picture ready for action when the camera started clicking.

This stunt worked out well. In fact, I took some night scenes of our camp and fire with lights, showing the two of us getting ready for bed.

After we turn in, I cut down on the lights and show a bear coming around the camp into the tent, and putting the

run on us. I have also added music to my picture."

With his single frame release, Mr. Harmon found that it helped considerably to use the cable release, and with a little practice, he was able to bat them off almost perfectly.

Up at Detroit, Mich., the Baia Motion Picture Engineering Company has devised the "Cine-Transito,"** a dial-faced instrument geared and synchronized to the camera mechanism so as to produce professional-looking fades, dissolves and even wipes with revolving discs.

Quickly On and Off

Built of light weight duralium, the removable unit can be attached or demounted quickly. Inclosed in the dial housing is a geared coupling, and through one side of the housing extends a crank for back-winding.

The calibrated dial, housing and crank fit over lugs protruding from the side of the camera. A celluloid fading disc or wipeoff disc is mounted on the end of a shaft extending out from the center of the housing so as to pass before the lens barrel.

When making a fadein, the opaque area of the disc is mounted before the lens, and the camera motor is started. By pressing the button on the center of the frame counter, gears are engaged which permit the disc to revolve automatically until the transparent part of the dial is reached.

The fadeout is performed by starting with the transparent area before the lens, a distinct warning click informing the operator that the fade has ended and shooting should stop. Fading discs are available in 2, 3 or 4 second fades, and are quickly detachable.

To make a lap-dissolve, the usual procedure is to back-crank for the number of frames needed for the fadeout and fadein on the new scene. The wipeoff disc revolves in similar manner, wiping away one scene replaced with

another, either from right to left, or vice versa.

The cost of the Cine-Transito installed ranges from \$25 to \$32.50, the windback costing around \$25 extra, depending on the type of camera. Single frame release, having a 1/25 second exposure, may also be installed for animation work at \$15 additional. The alterations and adaptations made by this firm are very exacting.

Now, with dissolves, fades and wipes, once available only to 35mm. producers, within easy reach of every button-pusher, need there be further alibis for amateur movies?

*Western Movie Supply Co., 254 Sutter St., San Francisco, Calif.

†Rieschl-Emerick Laboratories, Inc., 303 Loeb Arcade, Minneapolis, Minn.

‡L. L. Harmon, 310 Bremer Arcade, St. Paul, Minn.

**Baia Motion Picture Engineering Company, 8044 Hardyke, Detroit, Mich.

Pasadena Movie Club

Mr. Wilson showed pictures of China which covered many of the places of which members had heard through the newspapers. Test films which members had taken at the previous meeting were shown—and much enjoyed.

Any member having equipment for sale, trade or exchange now has the privilege of posting the same on the club bulletin board.



Outside of movie camera cover shows wind-back knob and calibrations to insure accuracy. Number of turns per foot depends on size of loaded film spool. Arbitrary A to Z letters aid in marking rewind position.

Remodeling A Picture Sets to Benefit B's

By JACK OTTERSON

Supervising Art Director Universal Studio

As Told to William Stull, A.S.C.

IT is often said that the economy and relatively greater financial success of the so-called B pictures makes it possible for many studios to produce their more pretentious A productions. The other side of the matter is too often overlooked: that intelligent re-use of such physical elements of the A production as sets is an important factor in making possible the economics of program film production.

Obviously if for a generous percentage of a B picture's sets you need not build new sets, but merely adapt existing ones, noteworthy savings can be effected. Even more advantageous is the fact that such a policy makes available to program pictures settings of a size and quality not otherwise possible on B picture budgets.

Since there is today an increased demand for economy in every phase of production, a brief discussion of some of the methods of adapting A picture sets for B picture use may at this time be constructive. Little enough has been

said or written about the subject; yet there are few fields which can contribute more notably to our task of combining economy with production value for program releases.

Two Groups

From this viewpoint, A picture sets divide themselves naturally into two broad groups. In one are sets designed specifically to meet the needs of a certain picture, and of a nature such that one cannot expect them to be of immediate use to the average program film.

In the other are sets of a more common genre, which represent rooms or structures which fit more naturally into the needs of the average program-picture story pattern.

While this division may not necessarily influence the design and construction of an A picture set, it should wherever possible be considered in the erection of that set. Actually, the cost of a set includes not only the expense of designing and building it, but also the expense of erecting it.

Clearly, then, if for re-use in a program film a set, in addition to being remodeled, has to be moved from a scene-dock to a stage, and there erected, that set will prove more expensive to the production than if it were already standing on a stage and needed only remodeling.

Therefore we have found it well to consider this in planning our A picture sets. When a special-purpose set is to be built, we try to schedule it for one of the more frequently used stages, and when it has served its purpose, strike it quickly and store the component elements in the scene-dock.

At present we are completing two films using sets of this more specialized nature: "Green Hell" and "Tower of London." One of them calls for sets representing a tropical jungle, with the crude huts of a jungle outpost, native villages, and the like.

Some Razed

The other involves castle interiors and exteriors. Sooner or later some future program films will unquestionably call for such backgrounds; but that is in the indefinite future. Meantime, no constructive purpose would be served by keeping these specialized sets standing.

On the other hand, whenever a high-budget production, such as a Deanna Durbin production, involves the construction of large or luxurious sets, or of sets representing rooms likely to be frequently encountered in normal program films, we find it advantageous to erect the set on a stage where it can for some time be left standing without interfering with normal production.

Then when the time comes to re-use it, there will be no added expense for erecting the set; the only charge will be for the relatively minor physical changes that adapt it to re-use.

What type of sets are most valuable

Reversing the tone values in a set like this, re-dressing it, and using more prominent backgrounds behind the windows can alter it beyond recognition for re-use.



for re-use? Well, since so many program films are fundamentally of the action type, tending toward the time-honored "cops-and-robbers" story pattern, I would put courtrooms and cafes very high on the list.

Then would come hotel and apartment house corridors and rooms—to say nothing of lobbies—and a variety of living and bed rooms ranging from a milieu in which one might expect to find the "little tough guys" up to one of Deanna Durbin's luxurious cinematic residences.

In the typical action picture (if there is such a thing!) one may expect to find one or the other of the romantic leads living in relatively modest surroundings, with the other domiciled on the more plutocratic side of the tracks. The heavy may live in a swanky hotel or apartment, and will certainly be seen in a night club if such a sequence can be had economically.

There is likely to be some action in a business office, and more in police station and courtrooms. A surprising number of these can be adapted from the more normal sets of the average high-budget picture; the rest, if they are not

already available, can be built without undue cost.

Two-Thirds Saved

I would estimate that with intelligent planning, at least two-thirds of the sets for an average B picture may be adapted from standing sets constructed for the studio's A productions.

The precise methods of modifying a set for re-use vary greatly, according to the demands of the action and the nature of the set itself. Disregarding momentarily the problems involved when the action indicates a specific floor plan differing from that of the set as it stands, let us consider some of the simpler methods by which a set can be economically adapted for re-use.

In some instances, simply re-dressing a set may be enough to change its aspect completely. In most cases, however, this can be taken for granted, and to it added changes in the visual treatment of the set itself.

Remodeling large sets, like this one from Deanna Durbin's "First Love," can give program production expansive settings at small cost.

Perhaps the most obvious, but always one of the most effective methods of changing the appearance of a set is the very simple trick of reversing its tonal values. If, for instance, the walls of the A picture set are light-toned, with a darker trim, a surprising change can be made by simply repainting the wall surfaces in a darker value and the trim in a lighter value.

This can sometimes be carried a step further by using three values instead of two—a light, a dark, and an intermediate value. The opposite is also true; where in its original aspect the set was treated with several tonal values, a surprising change can be wrought by suppressing one or more of them, and altering the remaining, basic value.

Wall Paper Important

Even more startling effects can be obtained by papering the walls. Where originally a wall might be treated merely as a flat, painted surface, the changed appearance given by using suitably figured wallpaper is incredible.

Often, however, the action of the second production may demand definite changes in floor plan. A door may be



needed to admit some dramatically important character at a point where in your original set there is only a solid wall.

In that case, it is only necessary to replace that particular unit of the set (by no means entirely the whole wall) with a unit containing the desired feature. The unused unit is stored for future use, while the rest of the set can be modified as requisite.

It is of course vital to be sure that the proportions, period, etc., of the replacement unit coordinate with the remainder of the set, so that there is no indication that the unit was added to a standing set.

In such an instance, clearly only one wall or less would have to be built, rather than three; and the remodeled set would still represent a saving of about one-third in comparison with a completely new set.

Big Changes in Sets

Where budgets permit, this is a very good way of making a complete change in a set for comparatively small cost. Until you have actually seen the result, it is hard to believe how greatly merely changing a door for a window, a blank wall for a fireplace, and so on, can alter a set, even without extensive changes in papering and painting.

In some instances, surprising changes in appearance can be made by changing merely the treatment of some such feature. In many of the sets used originally for the Deanna Durbin productions, for instance, windows may be somewhat subordinated, using only neutral backings behind them.

Using the same sets later, for another production, we may stress the windows more by the trick of using more prominent photographic or painted backings or miniatures behind them. Night-effect backings, with properly scaled flashing lights are excellent where the action permits.

Spectacular Stairway

There are some problems midway between these extremes; when a set may be virtually designed around some architectural feature which is very difficult to disguise. In the current Deanna Durbin film, "First Love," for instance, there is a set of an entrance hall of a mansion.

This set is featured by a spectacular broad, curving stairway which is an integral part of the design; suppress that stairway and you would have very little left. It would be almost impossible to replace it with anything.

That set is still in use, so the problem of re-using it is as yet well in the

future, and anything that could be said about the matter must necessarily be one of surmise. But two methods suggest themselves. First, retaining the stairway, replace the wall behind it with one or more large windows, through which, perhaps, can be seen a suitably prominent backing.

Give Lighting Effects

Second, again replace the wall, but this time with modernistic translucent bricks. This again would tend to draw attention away from the stair itself, and make the background more prominent. It would also offer the cinematographer interesting opportunities in effect lighting, illuminating the translucent glass-brick wall from behind, thereby throwing his actors into a semi-silhouette or even a full silhouette.

The variations possible by combinations of these methods will be found to extend themselves almost indefinitely. It is even possible to so completely alter the appearance of a given set that it can, with successive modifications, be used to represent two or three appar-

ently different rooms in a single picture.

This leads to the final problem: the time interval necessary to avoid the danger of having many audiences see the remodeled versions of an A picture's sets in a program release *before* they see the originals in the more pretentious production.

This is complicated by the fact that many program films have short production schedules, while the higher-bracket features may be allowed more time in editing, scoring, and so on, to say nothing of a later release date.

This can be minimized by taking adequate care that sets created for an important picture shall not be re-used until a reasonable period has elapsed. In general, when we have built—as we always do—a group of exceptionally pretentious sets for such a film as a Durbin production, we make it a rule never to allow even consideration of re-using them for a lesser film before eight weeks or more have elapsed from the completion of the A picture.

This is generally sufficient to avoid either the possibility that the B film be released earlier than the A or the still more embarrassing chance that the two might be seen together on a first-run double bill. In the second-run houses we must sometimes take a chance in the latter respect; but if both the art director and the cinematographer approach their work with proper artistry, there is really little chance that even if such a thing happened, the average audience would be aware of it.

For between the physical control possible to the set designer, and the photographic control possible to the cinematographer, properly coordinated, almost anything is possible, and the result can be increased B production economy with enhanced production value.

Hollywood Forum

The first program of the season was held in Bell & Howell auditorium Oct. 21. The new Forum president, Fred Orth, suggested that films taken by members be featured. The result was worth while:

"Harvests of the Forest," International Cinema League prize film, H. A. Burnford; "Old Chicago," J. Wilson, color; "Cocoanuts and Sunsets," Kay Holzapple and Louise Butter; "Utah," Dr. Helen R. Clifford, color; "National Parks," I. Neal Rogers, color; "Skippy the Coconut," Mark C. Hunnewell of Miami Beach.



This stairway dominates its set; but for re-use the wall unit behind the stair might be made different by use of large windows, or translucent glass-brick treatment, effectively altering the appearance of the whole set.

"*Simply couldn't get along
without 'em*"



CINÉ- KODAK FILMS

THERE is no Christmas gift problem, as far as home movie fans are concerned. Give them a roll or two of Ciné-Kodak Film. They'll be delighted.

When you give Ciné-Kodak Film you compliment any movie maker's movie-making artistry. For, back of the special effects which distinguish his movies is his reliance on the uniform quality, the speed, the fine grain, and the brilliance of Ciné-Kodak Films.

Kodachrome, the full-color film, is the most prized of all home movie films. A roll or two of Kodachrome—and you've high-lighted Christmas for some deserving movie maker.

CINÉ-KODAK FILMS

For 16 mm. Home Movie Cameras

KODACHROME, the magnificent color film. Available in two types, one for daylight and one (Type A) for Photoflood light.

SUPER-XX PANCHROMATIC, a black-and-white film of top speed, for indoor shots or outdoors in poor light.

SUPER-X, a brilliant, fine-grain film for general outdoor work; fast enough for some types of indoor movies.

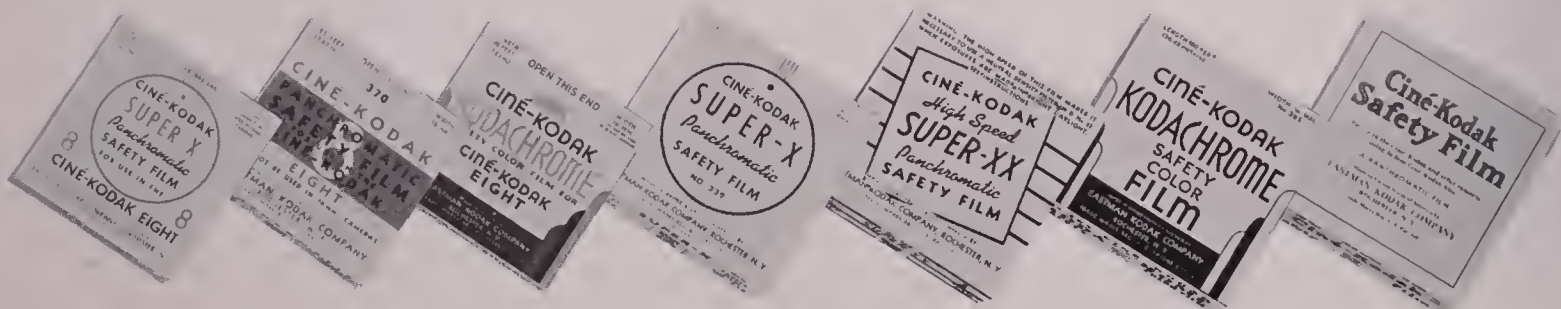
SAFETY FILM (Panchromatic) is for use when the special qualities of the other films are not important to success. In 100-ft. rolls only.

For 8 mm. Home Movie Cameras

KODACHROME, in two types, regular and Type A, as in the 16 mm. film.

SUPER-X, a recently introduced film of great speed, brilliance, and photographic quality.

"PAN," the famous standard 8 mm. film, high in quality, low in cost.



EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

BERNDT OPENS PLANT IN WEST FOR B-M EQUIPMENT

TO meet the growing demand for high quality 16mm. sound-on-film equipment on the Pacific coast, Eric M. Berndt has established a Hollywood sales and service agency for Berndt-Maurer equipment. Also available is an engineering and consulting service covering all phases of 16mm. sound and picture work.

The Hollywood agency will handle B-M 35mm. variable area recording galvanometers as well as the complete line of B-M 16mm. sound-on-film recording machines, high fidelity amplifiers, film phonographs, and camera motor drives. Complete facilities have been established for special work on film sound machines and recording galvanometer installations.

The newly formed E. M. Berndt Corporation is situated at 5515 Sunset Boulevard, near Western Avenue. Associated with Mr. Berndt as officers of the corporation are G. A. Busch and Walter Bach, both formerly with Berndt-

Maurer in New York City. Mr. Berndt has assumed active management of the Hollywood agency while maintaining his interests, as before, in the Berndt-Maurer Corporation of New York.

A complete B-M 16mm. double system sound-on-film recording channel and a B-M 16mm. film phonograph rerecording channel are on display at the Hollywood office. A small demonstration theater is available for 16mm. sound-track playback and picture demonstration.

Cartoons and We've Been to the Movies. The book fits in with a series of fourteen other books, of which the first two are The Train Book and The Fire Engine book. The story of the movies and the screen is not like the train book and the fire engine book.

The authors have visited Hollywood and have seen the inside of studios and the men and women at work on the inside of the fence. Apparently they have been shown much that goes on behind the lines and have got some of that down on paper. As said in the

beginning, 48 illustrations are shown bearing on picturemaking. The pictures are authentic.

La Casa Moviemakers

A large group of movie fans attended the October meeting of La Casa Movie Makers of Alhambra, Cal. Some fine work was shown.

Mr. Ingham has made a hobby of trains, and has filmed all types from the old wood burners to the latest stream line de luxe.

Mr. and Mrs. Moore made a fine color film on a recent trip through the Canadian Rockies.

Mr. and Mrs. Gardner vacationed in the New England states and have a good continuity of their experiences. They are new at the game, but get results like old timers.

November will close the fall uncut film contest and some interesting results are expected.

R. A. BATTLES, Publicity Chairman.

Approximately two-thirds of the motion picture films exhibited in Argentina during the first nine months of this year were of United States origin, according to the Department of Commerce. Of a total of 347 films exhibited during the nine months, 232 were American-made.

NEW BOOKS

The Year's Photography. 1939 - 1940. Royal Photographic Society Publication. 2s. 6d. Advertising, 47 pp.; text, 19 pp.; plates, 44 pp.

The text of The Year's Photography is contributed by J. Dudley Johnston, Hon. F.R.P.S., "The Pictorial Side of Photography"; "The Lantern Slides," by R. H. Lawton, Hon. F.R.P.S.; "The Naturalist and the Camera," by John E. Saunders, F.Z.S. (Assistant Editor Photographic Journal), and "The Un-Birthday Present," by E. W. H. Selwyn, A.R.C.S., B.Sc., F. Inst. P.

Let's Go to the Movies. By William Clayton Pryor and Helen Sloman Pryor. Harcourt, Brace & Co. New York. 183 pp. Illustrations, 48 pp. \$2.50.

In this book of thirteen chapters its authors have been thinking of high school teachers and principals and the writing of a text book. It is dedicated "to high school teachers and principals who have asked for a book like this."

With that end in view thirteen chapters have been written. They are entitled Let's Go to the Movies, Newsreel, Feature, Story, Direction, Players, "Roll 'Em," Costumes and Make-Up, Sets and Props, Editing, Selected Short Subjects,



E. M. Berndt Corporation's new plant for Berndt-Maurer Sound Equipment, 5515 Sunset.

DEVISE SUNFLECTOR AS CINEMATOGRAPHER HELP

IN 1934 Elmer Dyer, A.S.C., and Charles Marshall, A.S.C., went to Randolph Field, Texas, to shoot "West Point of the Air" for M-G-M.

A Randolph Field officer, Lieut. Don Norwood, was detailed as liaison officer to coordinate operations between the military and the motion picture organization.

A large portion of the picture taking included aerial work, but there were also numerous ground scenes. Lieut. Norwood observed with much interest the extensive use made of large reflectors to supply auxiliary illumination for the ground scenes.

As a matter of fact a whole truckload of these reflectors were usually carted around. The splendid effects achieved by their use was duly noted.

Since Lieut. Norwood had more than a passing interest in photographic practice he pondered the problem of more extensive use of reflectors by amateur photographers. If the professionals could achieve such excellent results with the use of reflectors why should amateurs not make more use of the same device?

Small and High Efficiency

The cumbersome size of the ordinary reflector seemed to present a major obstacle. Study of the matter revealed the fact that the ordinary reflector is a huge, low-efficiency device. What was a small high efficiency device that would effectively do the same job.

Working on this premise he finally evolved just such a unit. This unit had high reflective power and kept the beam of illumination compact so that very little reflected light was wasted.

The device radiated a divergent cone of illumination which was very intense near the unit where the circle of illumination is relatively small, and tapered off gradually at greater distance where the circle of illumination became progressively larger in size.

Thus the operator was offered the choice of selecting the intensity of secondary illumination desired, by just placing the device at the appropriate distance from the subject.

Has Device Patented

The accompanying illustration shows the unit in action. It is interesting to note in this scene the heavy shadow on the left of the photographer. The corresponding shadow on the subject has been brought up to a nice level of transparency by illumination from the reflector device, which may be noted in the left center foreground.

The device worked out so well in practice, and was the subject of such favorable comment from all photographers who saw it in action, that Lieut. Norwood proceeded to procure patent protection for it. It was named the Sunflector.

Then a big manufacturer of photographic specialties saw the potentialities of the device and decided to produce it in quantities so as to offer to photographers generally the advantages to be obtained from its use. This manufacturer, James H. Smith & Sons, Victor Products, Griffith, Ind., after a year and a half of preliminary work now has the device ready for the market at a reasonable price. The reflector measures 10 inches over all in diameter and weighs 25 ounces.

The possession of such a unit enables a photographer to secure balanced illumination on his subjects. He may then undertake to make those cross-lighted and back-lighted shots which are so attractive.

It is believed that these units will enable amateur photographers in some measure to emulate some of the splendid scene lighting effects achieved by the professional A.S.C. men, and in so doing to raise the general level of their work.

After all, proper lighting is one of the hall marks of good photography. These units will also probably be found to be of considerable value to newsreel photographers and others who appreciate the value of reflectors but also demand maximum portability of equipment.

Walker Wins Another

FOR the second time in five months Joseph Walker, A.S.C., romped away with the photographic honors in the Reporter's poll for October. This time it was Capra's "Mr. Smith Goes to Washington." The preceding time it was Hawks' "Only Angels Have Wings," Columbia producing each.

For Walker it was two in a row, he having stepped from "Only Angels Have Wings" on to the "Mr. Smith" stage. And that, it may be said, is not being done—except on one occasion. That was when Bert Glennon followed Wanger's "Stagecoach" in February last with Twentieth Century-Fox's "Young Mr. Lincoln" in June, making two in a row for him in the first instance.

In the October voting there were only four places that missed going to "Mr. Smith." They were best actress performance, Greta Garbo, in "Ninotchka"; best supporting actress performance, Ina Claire, in "Ninotchka"; best original song, "Eternally Yours"; best general feature, "20,000 Men a Year," Twentieth Century-Fox.

All the other bouquets went to "Mr. Smith." They were to the best picture, to the best director, Frank Capra; to the best actor, James Stewart; to the best screenplay, Sidney Buchman; to the best supporting actor, Claude Rains; to the best incident performance, Harry Carey; to the best musical score, Dimitri Tiomkin.



Sunflector in use against heavy shade.

THE PUBLIC

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Carbon Arc Lighting gives the needed illumination with maximum economy and minimum discomfort from heat.

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Put your theater in step with this upward trend in light intensity. It has popular appeal. People like to enter a theater in which they can see their way to their seats. And they can do just that in the many theaters

that are now equipped with high intensity projection. Think this over if you still have low intensity projection. Those first minutes of blindness result from the low level of general illumination necessitated by lack of light on the screen. Don't let poor lighting drive your patrons to other theaters. Install Simplified High Intensity projection and attract that growing body of theater-goers who appreciate plenty of light.

Write for a free copy of the booklet, "The Lateral Triangle in Picture Projection."

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CONTINUITY PRIME FACTOR OF STORY TELLING

By CLAUDE W. CADARETTE

Founder Los Angeles 8mm. Club

CONTINUITY is an uninterrupted succession of a series of ideas, facts, actions or events, which, when placed in their proper sequence, form a complete cycle or establishment of fact.

It is the prime factor in motion picture photography to convey to the audience the purpose of the picture in a clear, concise narrative. It places each incident in a relative position so that it leads to its ultimate goal the thought to be expressed.

Its place in motion pictures is as important as its use in writing a book, making a speech, or telling a story so that the individuals comprehend the entire narrative without an interruption of thought. The picture is started, and by a step-by-step process carries the viewer to the climax and final fadeout without giving his mind an opportunity to wander from the original theme of the picture.

Continuity in travelogue carries the audience from one location to another and should be so well executed that they are anxious to see the trip unfold before their eyes. Without an appropriate, smooth continuity the film would fall in the class of the old postcard album or stereopticon slides.

Movement—Visual, Narrative

Any picture should contain visual movement for the eye and narrative movement for the mind. The picture should start with a main title and possibly be followed with an explanatory subtitle for explanation of the purpose of the trip or scenario, the proper combinations of scenes for each sequence, the proper placement of each sequence, and then the final close-out scene or fadeout.

Assuming your trip is planned to include several cities or national parks, combine all scenes of each city or park to become a complete sequence of that particular location. Each of these sequences covers one phase of your trip and becomes a complete unit of its location.

A sequence of Zion Park should entirely cover that park and no other scenes of Zion should appear in other parts of the reel of film.

Although it is possible to have a main title for each sequence or location, it is



Claude W. Cadarette

better to insert a few scenes between sequences to carry your audience from one location to another. Shots of the car rolling along the highway, or a line drawn along a map are common shots used between sequences.

Watch Your Fades

Each sequence should start with a fade-in and end with a fadeout. Follow this with a quick fade-in of your action shot and fadeout. These interspersed shots can become running "gags" if you like a little humor in the picture.

The use of date sheets dropping from calendar, poetic passages or any of the innumerable ideas denoting a passage of time or space add to the attraction of your travelogue. Never allow your picture to become a monotonous series of scenes alone. Cut in running gags of you pumping a tire, or the famous Burma Shave signs to add a little zest.

In shooting your scenes choose the best set-up for your camera, keeping in mind that composition is also an important aid to continuity.

A common fault in travelogue pictures is the unending panoraming shots which do not allow the eyes to remain fixed on the subject of interest.

Upon the completion of your trip, take your audience back home. A few action shots is sufficient to give your audience the sensation that they had accompanied you on it. Never leave them in some park or city but add a few shots of the return home and unpacking the luggage and your picture can end with a long fadeout.

Must Be Smooth

Continuity in scenarios must be very smooth so that the viewers do not have to question the purpose of each scene or action. Each sequence must be so closely related that their omission from the reel would render the scenario incomplete and disconnected.

Open the picture with a main title and sub-titles to introduce your characters and location of the story. The use of sub-titles in scenarios should be kept at a minimum, as they usually retard the action of the story. If your story is well planned and the narrative strong, sub-titles can be eliminated and the picture will tell the story.

Your lettering in the titles should conform to the mood of the picture. For dramatic pictures lettering in bold type is suitable while Old English lettering is more appropriate for pictures at Christmas or anniversaries of elderly couples.

In writing your scenarios the same procedure should be used that you would employ in preparing a speech.

First, write the story in a brief synopsis listing all important phases which lead to the climax. Then list the scenes as they will appear on the screen, for example:

Long shot—Scene 1—Opening shot of farm.

Medium shot—Scene 2—Close shots of cattle, chickens, hogs, etc.

(Continued on Page 570)



William (Bill) Salmi, designer of the new HCE focal plane flash synchronizer for use on the Graflex and Speed Graphic.

Hollywood Man Installing Focal Plane Synchronizer

William (Bill) Salmi of the Hollywood Camera Exchange's technical and research department, 1600 Cahuenga boulevard, has designed the HCE focal plane flash synchronizer for Graflex and Speed Graphic cameras. A lens shutter is not required. With the use of the device a uniform exposure with no hot spots or fadeouts is secured. Flashes up to 1/1000 of a second are obtainable with this synchronizer.

A money-saving feature is the safety device incorporated in the synchronizer which eliminates the possibility of flashing bulbs while winding the focal-plane shutter curtain.

The design is of the simplest character, the only visible parts being the battery case, cord and reflector. The heart of the synchronizing unit is constructed within the camera, so as to keep it within adjustment, with perfect synchronization at all times. The feature adapted to the Graflex and Speed Graphic broadens their range in the field of sports and action events.

The price of the extra equipment installed is \$25.

Germans Digging In

The office of the commercial attache at Berlin, Germany, reports that a representative of the German motion picture industry and the director of the Association of Slovakian Motion Picture Theater Owners met to discuss details of a close cooperation between the two groups.

The question of German film imports was carefully examined. It is reported that the Slovakian motion picture industry will be completely reorganized, both technically and financially as well as culturally. The first step, it is said, will be to prohibit the exhibition of films of the wild-west and gangster type.

AN INEXPENSIVE WAY TO PUT *professional* *your* SOUND-ON-FILM

INSTEAD OF SILENT. Of course, you'd rather have sound instead of silent films if they're not too costly. Here's a simple plan that offers you all the advantages of Sound-On-Film at moderate cost. Like other cinematographers you may be surprised to learn that Sound-On-Film often costs no more than a good job of professional titling.

INSTEAD OF SOUND-ON-DISC. If the cost is moderate enough, these are several reasons why you'd prefer to use Sound-On-Film instead of sound-on-disc. You know it's easier to get perfect synchronization. You know that projection is simpler and more pleasant. You know that Sound-On-Film doesn't deteriorate with use. What you may not know is that the expense is frequently no more than the total of your costs for a satisfactory sound-on-disc recording. To get professional sound *on your films*, follow these two simple steps.

TWO SIMPLE (and economical) STEPS To Professional Sound-On-Film

1st STEP

Select one of these professional Sound-On-Film laboratories to score the sound and music on films you take. All of them are equipped with B-M apparatus and are thoroughly qualified to record professional sound. They can produce results that are either quite simple or very elaborate according to your specifications. The laboratory you select will be glad to tell how your material should be sent to them. If you describe your film, they will also provide an estimate of cost.

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Kansas City, Missouri
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Pasadena, Calif.
Roger Sumner Productions
327 East Green Street

2nd STEP

If your camera isn't already equipped, you want a synchronous motor drive to film your pictures at synchronous speed. *All you need* for a Ciné Kodak

Special Camera is the Berndt-Maurer Synchronous Motor Drive illustrated here. If you have some other 16mm camera, there is a suitable synchronous motor available for it, too.



Take these two simple steps and begin to enjoy the benefits of *sound on* all your future *films*. Write today to one of the four Sound-On-Film laboratories listed above. Then order your synchronous motor drive. If you have any questions that are not answered here, write for additional information.

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Use of Fine Grain Positive Emulsion

(Continued from Page 537)

equal to that obtained from ordinary stock using electrical noise reduction.

The most complete advantage in using fine grain stock is obtained only where the film laboratory has compounded a developer especially designed for the characteristics of this stock. Under these conditions an H and D characteristic of the negative at a gamma of .35 is shown on Fig. II.

It will be noticed that the toe to shoulder latitude widens and the overall printed through sensitometer strip shows no deviation over the range of densities needed. (Fig. III.)

An increase in apparent modulation of the film is obtained such that the theatre uses less amplification for the required loudness. This is due both to increased frequency response and also to the actual transmission of the film being greater than the indicated transmission by the visual densitometer.

Because of this increased transmission, the amplification in the theatre for fine grain variable density need be no greater than for variable area, with the added flexibility inherently available in variable density systems for changing levels by changes in print densities.

Fig. 4 shows photo micrographs taken

* See F. E. Ross, "Physics of the Developed Photo Image," page 138 (1924).

by K. B. Lambert, which shows the grain size and clumping of the various combinations tested. It will be noticed in the bottom of the figure that when a square wave having a fundamental of 7000 cycles is recorded, the increased fidelity in the negative is apparent in maintaining a more proper density gradient.

Action Stills with Focal-plane Flash

(Continued from Page 545)

set lighting was used: but in every instance it is noticeable that even with this brief exposure, the single No. 31 flash-bulb provided the principal illumination, effectively penetrating all other lighting.

As will be seen from the illustrations, the movement—even in such fast-moving extremities as hands and feet—was "stopped cold." Further, the small stop used permitted extreme depth of field, which could not have been obtained in any other way.

When compared to previous methods, the value of focal-plane synchronization can be easily perceived. We can now make these shots actually on the set, instead of against an uninteresting, white background outdoors.

We can use any shutter-speed necessary to "stop" the action, up to and including our cameras' maximum of 1/1000th second. Actual tests have

shown excellent synchronization at 1/1000th second, with ample exposure values.

This, incidentally, points the way to further possibilities: the use of focal-plane synchronized flash exposures in place of reflectors for normal, exterior high-speed action stills.

Finally, in our immediate problem of making action stills of dance routines, there is the obvious advantage of eliminating the use of reflectors which, as has been said, almost invariably force the player to squint or even to blink in the dazzling glare of reflected light.

The photoflash, even though it is infinitely more intense than any possible reflected sunlight, is of such brief duration that it is over before the player is conscious of it. Accordingly, the synchro-flash picture is made before the player has time to blink. This is a definite advantage.

In conclusion it may be said that this new focal-plane synchronizer bids fair to advance the scope of studio still work to a measure second only to the familiar advances already made possible by lens-shutter synchronization.

Further experimentation and actual use on production will of course be necessary to determine fully what can and can not be done with this new tool. But it is certain that in it the studio stillman has gained something that will simplify some of his most perplexing problems.

For Better Pictures BABY KEG-LITE

THE TALK OF HOLLYWOOD

Here is the most sensational development in the history of photographic lighting in the opinion of leading Hollywood camera men. This amazing new light has been tested and proven over and over again under the gruelling conditions of Hollywood's movie studios . . . and you know any light has to be good to pass such requirements.

Here are a few outstanding features which have made the new "BABY KEG-LITE" the talk of the Hollywood Studios:

Instant Focusing—Light beam may be instantly spread to any desired angle and a patented device enables you to duplicate any desired lighting effect.

Intensity—Light output of "BABY KEG-LITE" is three times greater than the average light of equal wattage.

Adaptability—Since it weighs only 25 pounds, "BABY KEG-LITE" is easily handled.

Color—Unexcelled for color photography.

FREE Folder

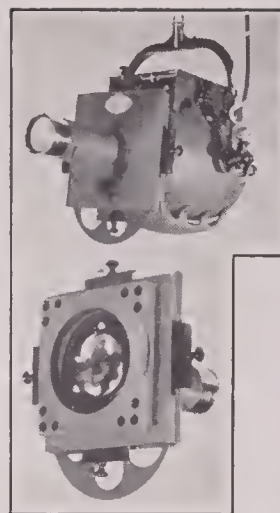
Write for FREE descriptive folder with quantity studio prices. Also reprint of valuable lighting articles including series of lighting diagrams.



"FOCO-SPOT" Optional Accessory To "BABY KEG-LITE"

Ideal For Special Shadow, Silhouette, Background Effects.

An additional attachment for the "Foco-Spot" is the background slide which accommodates glass plates furnished with it. The variety of effective backgrounds which may be obtained with this device are endless. Designs may be drawn or painted on the glass slides. Tin foil may be cut in patterns and inserted between two glass slides. Flower petals, frayed cloth, wire screen, etc. may be used for projected backgrounds.



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Camera Rest for Filmo 141

Designed by Bell & Howell

Bell & Howell announces a new sheath case of patented design which differs radically from the ordinary type of cut-out case used on a candid camera.

In this new case for the Filmo 141 16mm. camera, the camera is screwed to a tongue which is permanently attached to the case. When the camera is placed in use the body of the case forms a camera rest against the chest for greater steadiness in movie making.

All the camera controls remain visible throughout use with this new candid "ready rest" case. Also, loading of the magazine is accomplished with utmost simplicity, and without having to detach any part of the case from the camera. The price is \$6.

anastigmat lenses for the various branches in photography, including photo-engraving and movie camera lenses as well as accessories.

Sensing the possibility of interruption or delay in imports of certain types of optical glass necessary for the production of its celebrated lenses, it has at this time sufficient stock on hand to take



The new candid "Ready Rest" carrying case for Bell & Howell Filmo 141 movie camera.

care of all normal demands of the trade for a considerable period.

Americans

Belief in the American home—Intensely defending the home front—living up to tradition and expressing their charity through the Community Chest—eliminating the sore spots of and relieving unfortunate families and caring for children in the community—"kindly affectioned one to another." That is why the "great heart of America" is America's great strength.

Eighteen thousand volunteers, who are also donors, ask all citizens, beginning November 8, to give of their substance that they may help other citizens not so fortunate through the Community Chest's 88 member-agencies.

Washington Amateurs

The November meeting of the Washington Society of Amateur Cinematographers was held in the lecture room of the Mount Pleasant Library at Sixteenth and Lamont Streets, N.W., on the 6th.

It was opened by an informal discussion of questions pertinent to movie-making.

Mr. Whetsel of the Ritz Camera Center demonstrated a Bell & Howell sound projector. Also he screened "In the Wake of the Buccaneers," a sound picture of the Virgin Islands.

Goerz Optical Company Not Affected by War Situation

So far as the supply of high-grade photographic lenses is concerned, the European situation does not disturb the sales program of the C. P. Goerz American Optical Company, 317 East Thirty-fourth street, New York, at the present time.

The company states that its New York factory is ready as ever to supply the American retailers with a full line of its American product as it has done for over four decades.

Since 1899 it has been building fine

Ideal Christmas Gift

ONE NEW DOMESTIC SUBSCRIPTION

TO THE

American Cinematographer

(One Year)

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**American Cinematographer Hand Book
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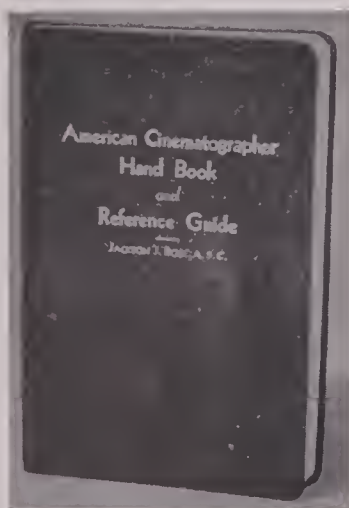
(BY JACKSON J. ROSE, A.S.C.)

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35mm., 16mm., 8mm. motion pictures, tables and charts for Cine cameras, film, filters, lenses, angles, miniature cameras, lights, calculators, color systems, exposure meters, timers, projection, developers, toners, etc., over 200 pages of essential material.

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widely used in training new recruits in the department. The success of this venture prompted Clinton A. Hackert, Chief of Police, to encourage the club in another production venture for the department.

The need for a documentary film record of the St. Paul School Police which would enlighten public opinion about the history and activity of their youthful traffic helpers had become evident. The colorful events which mark the annual activities of the 2500 boys and girls demanded that the new film be produced in natural color—a venture which called for the solution of numerous technical problems, among them the brilliant lighting of the entire Auditorium in the Public Safety Building so that the annual election of the School Police Chiefs could be recorded in color.

Lighting experts from the Northern States Power Company were called in, and five cameramen assigned to cover the event.

A further problem was the careful selection of color film made under changing outdoor lighting conditions, due to frequent changes in sunlight from passing clouds, so that the annual picnic and parade shown in the finished film would contain fairly uniform exposures.

While equipment valued at thousands of dollars was used to make portions of the film, much of the work was done with ordinary, inexpensive equipment, and in some instances, home-made, crude devices were assembled to accomplish editing and titling of the film.

It is perhaps this factor which has brought to the screen the spontaneity of enthusiastic boys and girls, alert to their opportunity as confident guardians of the school population, in a motion picture drama of real life in St. Paul.

At times the cameramen were swamped with children who wanted their own pictures included, but nevertheless, the club members who helped to film this documentary picture will not soon forget the tremendous cooperation and service which are outstanding qualities apparent in the school police boys and girls.

Art Reeves Designs Inter-Changeable Developer

(Continued from Page 541)

place by ordinary, wooden spring-clip clothes pins. Since the drive is through the bottom rollers only, the film in the section thus disconnected does not move.

When it is desired to change from negative to positive development, or vice versa, the strand in the unused section is merely connected into the line by means of staples or Mercer clips, while that in the other section is disconnected. Developing-time changes are made by a simple adjustment of the variable speed control.

With the new compensating take-up, it is therefore possible to interchange without delay from 35mm. negative to 16mm. positive, from 16mm. negative to 35mm. positive, or any other necessary combination.

ST. PAUL CLUB HAS GALA EVENT IN STATE CAPITOL

ON November 6 in the Chamber of the House of Representatives of the Minnesota State Capitol the St. Paul Amateur Movie Makers' Club presented "Barbara Steps Out," an outstanding record of the history and activity of the School Police. The club had made the film for the Department of Public Safety of St. Paul.

After the premiere showing of the film it was handed to the Governor, Harold E. Stassen, an honorary member of the St. Paul School Police, who in turn delivered the film to officials of the city.

The program of the evening's entertainment included acknowledgements of

introductory remarks by E. E. Bauman, chairman of the scenario committee; presentation of film by Secretary Ford Marshall of the club; acceptance of the club by the Governor, Mayor William H. Fallon and Gus H. Barfuss, commissioner of public safety; introduction of color travelogue of the Black Hills, Homer B. Thomas. The picture had been made by the technical advisor of the club, Hans Reuter, for the Northwestern Railroad.

Two years ago the St. Paul Amateur Movie Makers' Club produced a teaching film for the St. Paul Police Department, "Spare the Evidence," which has been

Philadelphia Cinema Club

The diversified features of the November meeting of the Philadelphia Cinema Club gave the members an opportunity to compare the "old" with the "new" in more ways than one.

The silent film, "Entitled to Success," an 800-foot 16mm. black and white production of Charles J. Carbonaro, demonstrated clearly how details can bring out the story in an amateur production. As a direct opposite and to prove that he could "take it," our own R. M. Hoot submitted a 400-foot reel of his first movie efforts—a 16mm. black and white. Mr. Hoot's first efforts, while naturally not in the class of "Entitled to Success," clearly showed that he understood the art of making movies when he first had the movie camera in his hands. Mr. Hoot's current efforts are in very great demand.

Through R. W. Henderson, of our own club, we were permitted to see and hear an amateur production of Kodachrome sound on film taken by himself with the cooperation of Mrs. Henderson at the Worlds Fair. It is evident that outside conditions, which movie-makers are not able to correct, interfere to a great extent with getting proper sound rendition accompanying the moving picture itself. This is especially true of background noises, resounding noises and the like. The reverberation caused by the construction of the Aquacade distorted the band music in such a manner that the microphone was unable to properly separate the true music from the background.

Mr. Henderson's photography was excellent, and we hope to see more of his work in the future.

Somewhat of a novelty is in store for the members and their family at the December meeting, which will be a Christmas party for the members and their children. There will be presents for the kiddies, delivered by Santa Claus. Movies will be taken of the meeting, which will be devoted entirely to entertainment of a type intended to attract and hold the attention of the children.

B. N. LEVENE,

Chairman of Publications Committee.

Hugo Meyer Announces New Synchronized Range Finder

Hugo Meyer, maker of precision photographic lenses and photo-optical instruments, announces a synchronized range-finder for plate and filmpack cameras. While formulated on exact trigonometrical calculations, the manipulation of this instrument is extremely simple. As one glances through its eyepiece, one observes two squares, one within the other.

The view seen in the larger square remains fixed. Superimposed on this field is a second image shown in the smaller square. As the focusing knob is ac-

tuated, the smaller field moves laterally across the main field. When the two images coincide, the camera is in exact focus. The image is bright, brilliant, contrasty and extremely visible. It can be observed quickly and with unusual ease. The square field of the Meyer Range Finder reacts most advantageously to the observer as it yields a larger, more readily visible image.

It provides, therefore, an easier, more certain method of focusing than the customary round field. In precision, in its close adherence definitely to modern optical and mathematical calculations, the Meyer Range Finder is the ultimate word in instruments of this kind. An

important feature is the mathematically calculated principle which coordinates the optical system of the range-finder and camera lens.

This renders the camera a truly autofocal, automatic instrument that will unfailingly capture its subject in exact focus—at every distance. It should also be stressed that the highly accurate calculations of the coupling curve eliminate errors often found in synchronized range finders at intermediate distances. For further information on this instrument, communicate with Hugo Meyer & Co. which manufactures this accessory in its New York workshops at 39 West Sixtieth Street.

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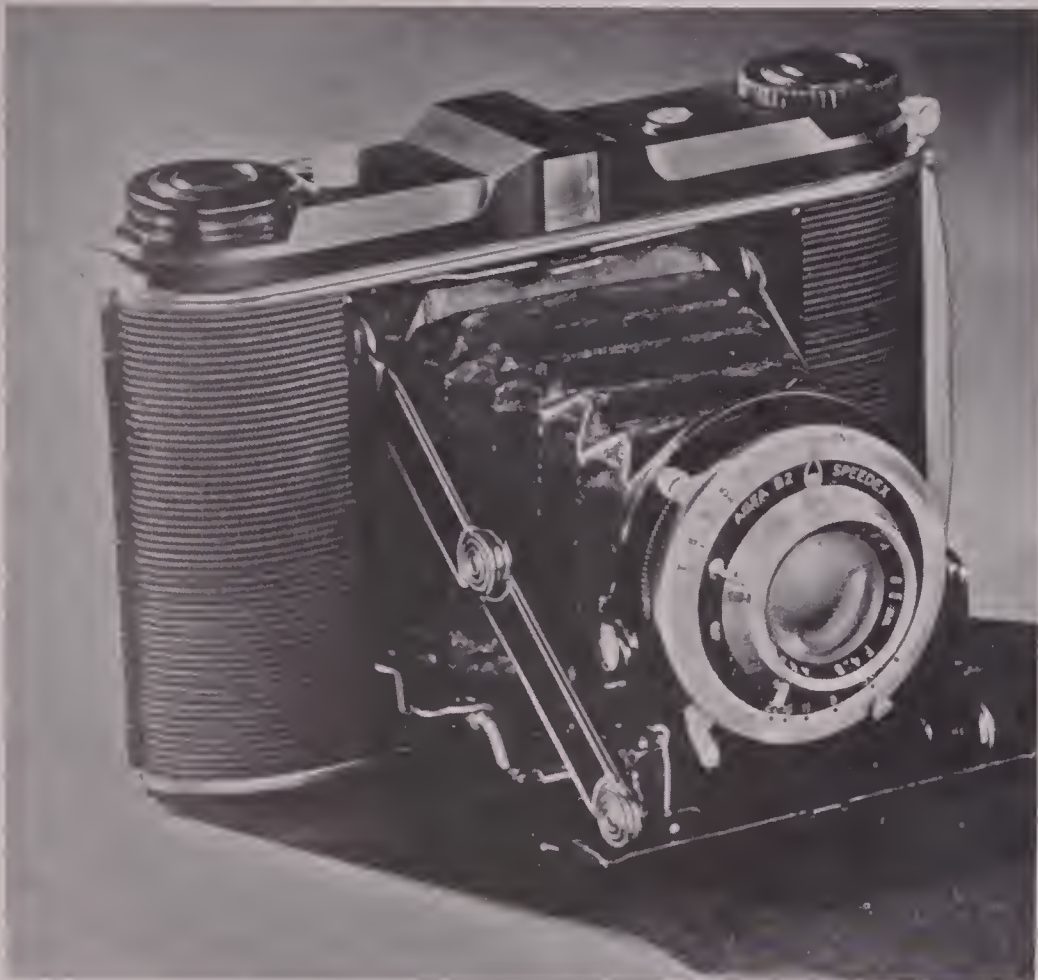
Project Pictures

Nothing adds more to the enjoyment of home movies or projected still pictures than a good screen. A Da-Lite Glass-Beaded screen will give your friends not only brighter, clearer projection, but the utmost in convenient service. Many styles from \$2.00* up. Remember when you give a Da-Lite screen you give equipment that has been famous for quality for 30 years. See Da-Lite Screens at your dealer's or write for illustrated literature!

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Agfa's New Speedex Makes Strong Bid for Popularity

Photographic dealers are currently showing Agfa Ansco's latest contribution in the field of fine hand cameras, the new Agfa Speedex. Precision-built and 100 per cent American-made, the

new Speedex is a compact and capable instrument with features in design, construction and workmanship that make it a remarkable value at its low price of \$27.50.

The Speedex is fitted with an f.4.5 Anastigmat lens of 85mm. focal length and a precision shutter with speeds of

Agfa's Speedex, f.4.5 anastigmat lens of 85mm. focal length, with 2¼ by 2¼ print.

½ to 1/250 second, as well as time and bulb exposures. Measuring only 5¾ by 3⅝ by 1½ inches in size (closed), the Speedex takes twelve 2¼ by 2¼-inch pictures per roll of inexpensive B2 size film.

Focusing from 3½ feet to infinity is provided by the adjustment of a focusing ring on the lens mount. The shutter, which is of the pre-set type, is released by a button mounted in a convenient position on the body of the camera.

The Speedex is unusually attractive in appearance, its trim, compact lines being emphasized by a rich black, wear-resistant covering and a restrained use of polished chromium metal. Added beauty is provided by the smooth, molded top which contains the eye-level view finder, built-in shutter release, opening release button and winding knobs.

An additional feature of the Speedex camera is the new-type, self-erecting platform and front which incorporates a precision movement that brings the lens and shutter assembly quickly into a rigid, picture-taking position.

A recessed tripod socket centrally located on the base of the camera, a single film window "peephole" positioned in the center of the camera back, built-in eyelets and a separate neckcord are all standard equipment. A special ever-ready leather carrying case, listing at \$4.75, is available.

Reflector Kit Issued by Agfa for Afterdark Work

Amateur photographers planning to make snapshots at night indoors with photographic flash or flood lamps will be interested in the new, inexpensive Agfa reflector kit now available at photographic dealers. The two folding reflectors included in the kit are made of a heavy, durable card stock having especially good color and reflection characteristics for photographic use.

Printed on the side panels of each reflector are full directions for use, including exposure recommendations and suggested lighting arrangements.

The new Agfa reflector kit also includes two metal adapter rings for fitting reflectors to standard home lighting fixtures, a handy ten-foot folding rule that eliminates the need for guessing distances, and a convenient exposure calculator.

The exposure calculator is of the "slide-rule" type and quickly indicates suggested lens and shutter settings for cameras loaded with Superpan Press or Superpan Supreme films, and for a wide range of lighting conditions.

The European war is likely to result in making New Zealand virtually dependent on the United States for its motion picture films, according to Nathan D. Golden of the Department of Commerce.

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Eastman Projection 70 has Made New 8mm. Standard

SMARTLY designed, sturdily built, easier to operate, a new Kodascope Eight, Model 70, is announced from Rochester by the Eastman Kodak Company. This Kodascope Eight, it is stated, is "designed to set a new standard for 8mm. projectors." Among its outstanding features are:

Die-cast construction, attractively finished in gun-metal gray, with chromium finished parts.

One-inch f.1.6 Eastman-made projection lens, which with 500-watt lamp makes it possible to show pictures up to 39x52 inches on beaded or aluminum surfaced screens.

Newly designed film gate, held open by catch during threading.

Convenient threading knob.

Positive three-position switch, controlling lamp, motor and cooling fan.

Positive framing by knurled screw atop projector. Outline of picture on screen is not moved during framing.

Rapid rewind, set in action by pull of a rewind lever. Automatic release of takeup drive during the operation. Rewinding done with lamp off.

Speed adjustment knob, which affords absolute control of the projector's motor speed.

Easy tilting, over an unusually wide angle, by an easily grasped adjustment knob on the projector base.

Highly efficient cooling system, including special cooling flanges, double-wall lamphouse, and powerful motor-driven fan.

Removable lamphousing, gives ready access to lamp, reflector, and condenser lenses.

Accommodation for 300, 400 or 500 watt lamp, and lamp adjustment screw for obtaining maximum illumination.

Convenient carrying handle, so located that the projector is properly balanced when lifted.

Main bearings pre-lubricated.

Sturdy, roomy carrying case, with space for projector, extra reel or two, extension cord, and an emergency splicing outfit.

Goerz American Company Compiles List of Products

In the interim while a more comprehensive illustrated catalogue of the various types of Goerz photographic lenses is being compiled, the manufacturers present a concise listing of the company products. In the event the information is not sufficient for the reader to make a selection he is invited to take up his particular problem personally.

The company suggests that having manufactured and sold Goerz lenses in the United States for more than forty years it may make the modest claim of having acquired some measure of experience which may be of help to the professional and amateur photographer, both cine and still.

Real Achievement

ON the evening of November 27 at Carthay Circle Theatre, Los Angeles, Paramount previewed "The Great Victor Herbert." A couple of weeks before it had done the same to "Geronimo." Both pictures had been through the new process of fine grain positive on which several of the studios have been working but on which Paramount has been one of the leaders.

"Geronimo" was the result of many shots, present and past, covering several years, with varying brands of negative. Excellent as were the results, these were submerged photographically and in sound by the Victor Herbert subject, photographed within recent weeks on the latest negative—and reproduced by Paramount on fine grain positive.

In its photography under the hand of Victor Milner, A.S.C., and its sound by Hugo Grensbach and John Cope it touched the heights. The photography will be recognized by the millions, clear to the vision and the consequent knowledge; the sound consciously and sub-consciously by one or another.

To the Paramount as an organization the picture is a real achievement. To Loren Rider and Dr. Charles R. Daily of the sound department, Ray Wilkinson of the laboratory and Roy Hunter of the camera department, together with all of their associates, the picture will mean much—proof that while Wall Street is worrying about the financial and other phases of industrial existence the substantial, the enduring, side of the motion picture is being well taken care of.

Those who heed photography will pay tribute to Vic Milner for his artistry as they will to the technical skill of the sound men.

There are many pictures where the man out front gets an occasional rumble that rises above the illusion created by the story. In "The Great Victor Herbert" the occasional becomes the regular; the lighting, the exposure and the sound are so striking, so unusual, they surmount the illusion.

35mm. and 16mm.

SOUND ON FILM ANNOUNCEMENT

Eric M. Berndt announces the establishment of an exclusive western sales and service agency for Berndt-Maurer sound on film equipment, with complete facilities in Hollywood for special work on film sound machines and recording galvanometer installations.

This newly established agency will handle the Berndt-Maurer 35mm. high fidelity variable area recording galvanometer, together with the complete line of B-M 16mm. sound on film recording machines, high fidelity amplifiers, film phonographs, and camera motor drives. This B-M equipment is now available for inspection and demonstration in Hollywood.

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GEVAERT COMPANY WILL MANUFACTURE FILM HERE

THE Gevaert Company of America, Inc., a New York corporation, has acquired a factory of considerable size for the manufacture of the well known Gevaert photographic products in this country. The factory is situated in Williamstown, Mass., and its site is of sufficiently large area to permit of future expansion.

The company expects that in a few months it will be able to supply American made films and other sensitized materials. At present it operates as distributors for Gevaert Photo-Producten, N. V. of Belgium, with headquarters at New York and branches in Boston, Philadelphia, Chicago, Los Angeles and San Francisco.

Film finishing operations are carried out on a large scale in New York, where also a modernly equipped cutting plant is maintained for the cutting and packing to commercial sizes of various types of photographic paper, supplied in full factory rolls by the Belgian Company. In addition, three amateur movie film laboratories are operated in New York, Chicago and Los Angeles.

Several hundred people are employed in the combined locations, but it is anticipated that American labor in much greater number will be required by the new factory. Naturally many of the unemployed in the communities in closest proximity to the factory will reap the benefit of this enterprise.

The Gevaert Company of America, Inc., has taken this step because of its desire to assure its American clientele not only of a continuity of supply in these difficult times, but also in order to better serve the American trade by increasing its production facilities and bringing its source of supply closer to its markets.

Spencer Lens Celebrates Finish of Giant Building

An "open house" for employees, local business, professional men and editors of business publications marked the opening of the new additional Spencer Lens Company plant October 26, in Cheetowaga, N. Y., near Buffalo.

Ninety-two years have elapsed since

the pioneer Charles A. Spencer, first American microscope maker, engaged upon commercial production.

A planned program of research and development, as well as entrance into new fields of scientific instrument manufacture, made the expansion necessary to Spencer Lens Company, the Scientific Instrument Division of American Optical Company. To its present Doat Street plan in Buffalo Spencer now adds more than 100,000 square feet of floor space. The Doat Street facilities henceforth will be used for general offices, research and development, lens production, assembly, final inspection and related services.

The new building is 210 by 410 feet overall, of steel, brick and concrete construction. The main factory is single story. A two-story section on two sides contain offices, the production engineering department, locker rooms, a cafeteria, and completely equipped kitchen.

Generous use of glass in side walls make this a perfectly day-lighted factory. More than an acre of glass is built in. Mercury vapor and Mazda combination units give an average of 43 foot candles of artificial lighting at working plane height.

Cameraman Goes Up in Air When Actor Goes Prankist

Confounding cameramen is a favorite trick of Vincent Price, six foot four inch film leading man, as demonstrated on the set of Universal's "The Invisible Man Returns."

Price baffled Milton Krasner, A.S.C., cinematographer, by upsetting "sets ups" of scenes as lined up with stand-ins by the cameraman.

Each time Price stepped into a scene, his head would be half cut off in the camera "finder." Krasner accused nearly everyone in the company of moving his camera until he discovered that Price, just before stepping in, had borrowed his stand-in's "lifts."

The latter devices, attached to the shoes, raise Price's stand-in, who stands "only" six feet, one inch, to the actor's height. With the "lifts," Price became six feet seven inches tall and Krasner's line-ups were thrown out of focus.

Continuity Prime Factor of Story Telling

(Continued from Page 562)

Medium shot—Scene 3—Shot of farmhouse and door of porch.

Closeup—Scene 4—Shot of door. Girl opens door and calls.

Reread Scenarios

After completely listing your scenes in this manner, write in the action of each scene. You then will have your story laid out so that anyone can read it and visualize the action of the whole scenario.

Reread the scenario many times, mak-

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ing a mental picture of each scene as you read, and determine whether each scene is closely related to the following one, giving a step-by-step continuity of thought.

Many scenarios are written which contain problems that are difficult to surmount. The portraying of a lapse of time, series of events or changes of localities in scenarios are usually slow moving scenes and tend to retard the smooth tempo of the balance of the picture. This type of sequence can be overcome most effectively by the use of "montage" shots properly used.

"Montage" is a series of short scenes which, when viewed in their proper order, convey a lapse of time, or series of events. If each scene were viewed separately it is incoherent and unrelated to the story, but by combining with certain other scenes, the combined scenes denote a certain phase or thought to be expressed.

Watch Professional Screen

The separate scenes may vary in length from two frames to any length that is necessary according to the tempo of the picture.

Each scenario requires its own montage effects, and its ability to express an idea to the audience depends on the ingenuity of the cameraman. A montage effect to denote household work can be assembled by combining short shots of routine work, such as laundry work, ironing, dishwashing, scrubbing, sweeping, etc.

Short closeups of each action will denote a housewife's daily duties or suggest work. If you will watch the professional screen, you will usually find a montage sequence that carries you forward in the story with the cameraman showing you a tedious series of events that would retard the tempo.

Building the climax of the scenario must be done by increasing the suspense of audience. Place your hero in a precarious situation where he must race against time or overcome great odds to achieve his ends.

Remember that you cannot depend on dialogue or sound effects to do this, and the suspense must be portrayed. If your scenarios appears to be slow moving or weak in certain sequences, rewrite them to improve them and visualize their appearance on the screen before shooting them.

It is difficult to produce tenseness in an audience, but a simple matter to produce a yawn.

Tell Story

To avoid placing the stigma of "Amateur" to your films do not shoot pot shots. Even though you are filming a fifty foot roll of the family, make it tell a story. Have them play bridge with one member receiving a perfect spade hand.

It gives you an opportunity for close-ups, showing different expressions, and ties the shots together.

Or a group at a cabin can be shown doing all the necessary chores while a

"Lazy-bones" sleeps. When everyone has gone tired, "Lazy-bones" awakens and wants some one to go hunting with him. Add a few touches of humor and your short reels are more interesting.

Tempo in continuity is the speed at which your scenario flows. The story controls the tempo, often starting at a medium speed, quickening to the climax and tapering off to the final love scene.

Quick cutting of action shots speeds the tempo, and injecting "montage" shots keeps your audience mentally alert to catch each scene as it appears. Love stories usually move slowly, but comedy or drama is quickened by fast action, short scenes and tense moments. Pictures of fast tempo are more popular.

When planning a continuity, keep the primary factors in mind. Assure yourself that the story is strong and subtitles are few. Analyze the camera angle you want and don't let a picture "drag."

Keep it moving so that your audience must be alert. Guard against the use of trick shots that are not effective. These are usually overworked, and detract from a good picture.

Don't Hurry

You have a story to tell, so tell it clearly, effectively and smoothly. Your

continuity must flow evenly, fast and be properly edited and cut.

Continuity is that element whereby the audience's train of thought is unbroken until the final fadeout. A good picture is *never* made in a hurry.

Check your scenario against these items before filming:

1. Does the story call for a fast tempo?
2. Is each scene, as written, related to the following scene closely?
3. Is each sequence a short story in itself?
4. Will any humor add or detract from the story?
5. Are there too many titles?
6. Will the montage shots convey the thought to be expressed?
7. Are the characters well chosen for their ability to act?
8. Does suspense seem to build to the climax?
9. Are the camera angles well chosen for the effect desired?
10. Does the story call for somber (low key) lighting or gay, frivolous (high key) lighting?
11. Are the longshots and closeups properly placed?
12. Can some scenes be shortened by merely suggesting the action?

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MGM Builds Unique Camera Boom

(Continued from Page 540)

In this the camera is slung beneath the panning mechanism, though of course the pan and tilt controls are in their usual places, beside and slightly under the camera. Each gives the camera a full 360-degree rotation in its plane; the crank-wheel controls favored at M-G-M are used:

The panoramic movement is geared to unusually high speed: only 14 revolutions of the control wheel are required to revolve the camera through a full 360-degree circle.

A single, well-upholstered seat, of tubular metal construction, is provided for the operative cameraman. This seat is quickly removable when not needed. Ordinarily no seat is needed for the assistant, as the camera is focused by an adaptation of a D. C. remote-control method.

Provision is made for mounting a second camera above the crane arm. This has a conventional M-G-M type pan-and-tilt head, and pans and tilts wholly independent of the lower camera.

Built-In Counterbalance

A source of constant irritation, and in some cases even of danger, in conventional crane designs is the system of counterbalancing the weight of camera and crew, which is usually done by means of removable lead weights placed in a box at the opposite end of the arm.

In Arnold's new boom the counterbalance is built permanently into the arm. Compensation for the varying weights of equipment and crew is made by turning a large control wheel at the inner end of the arm. This moves the counterweight toward or away from the fulcrum, accordingly decreasing or increasing its leverage.

By this means it is possible to counterbalance the boom so accurately that it may literally be raised or lowered with one finger. A set-screw type of friction lock, operating on a quadrant, permits locking the arm in any position. A similar lock is provided to limit the boom's horizontal rotation, and brakes of the automotive type are provided on the rear wheels.

A full circular catwalk is provided for the boom-operator. This is made in four sections, all of which are demountable. At the front end are two telescopic tubular members, either or both of which can be extended—one on either side—for the stage crew to use in pushing the crane for dolly-shots.

A non-extensible, curved bumper is fixed at the rear for the same purpose, and also as a guard-rail. All of these units—catwalk, pushing arms and bumper—are instantly demountable.

Flexible Operation

The degree to which the unique construction employed by Arnold saves weight may be judged by the fact that while comparable-sized booms of conventional construction have an average weight of over 7600 pounds, the new M-G-M boom weighs but 3100 pounds.

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Yet there appears to be no sacrifice in either strength or rigidity.

Arnold has designed this new boom to be as nearly as possible a completely universal camera carriage. Its rigidity is such that it can be employed, except in the most cramped quarters, as a stationary camera support in place of conventional tripods and the like.

In this service, the elevated crane arm and underslung camera mount give the camera crew more clear working space about the camera than any conventional type of tripod or boom. At the same time the crane arm, together with the power-driven hoist and free-rolling chassis, makes accurate positioning of the camera quicker and easier.

The suitability of the unit for the majority of moving-camera shots will of course be obvious. The precise controllability of the counterbalancing facilitates one-man operation in scenes where the camera must quickly follow an actor from a low position to a normal or high one, or the reverse.

In addition, the underslung camera mount will permit the boom arm to be extended completely over such a prop as a cafe table or even an automobile, and, with the boom extended to the side of the chassis, to dolly from or to such a position without interfering with the use of the prop in the wider angles of the same shot.

Altogether the unit appears unusually versatile, and represents a distinct forward step in the evolution of mobile camera platforms. The application of advanced materials and engineering principles to its construction are also noteworthy. M-G-M and designer Arnold are alike to be congratulated on the achievement.

Berndt-Maurer Issuing Three Booklets in Sound

From the Berndt-Maurer Corporation, 117 East Twenty-fourth street, New York, copies of three educational booklets are available to any individual seriously interested.

The title of the booklet "How to Benefit from Sound Films and How to Obtain Them at Lowest Cost" indicates its contents. The reasons why it is now possible and desirable to employ the sound motion picture on a broader scale than heretofore are pointed out, and some of the problems which can be effectively solved by movies are outlined.

The two other booklets are technical in nature and show why sound recording directly in 16mm. film produces higher quality results than the method of recording on 35mm. film and reducing to 16mm. for the final print.

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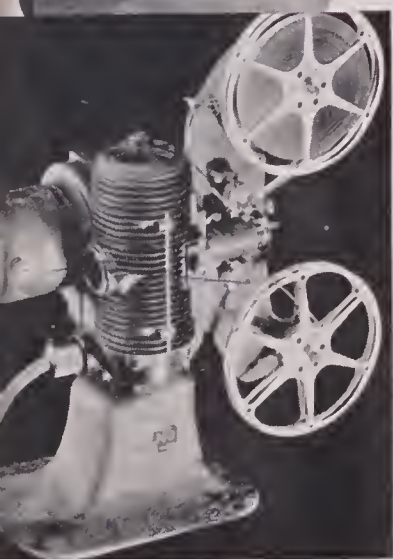
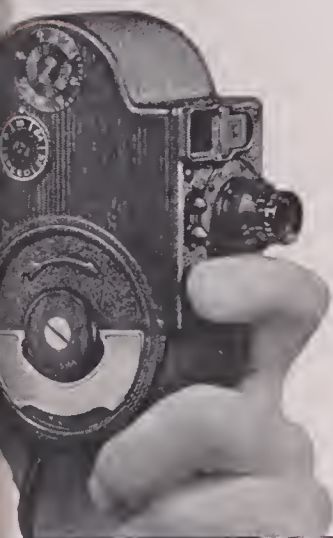
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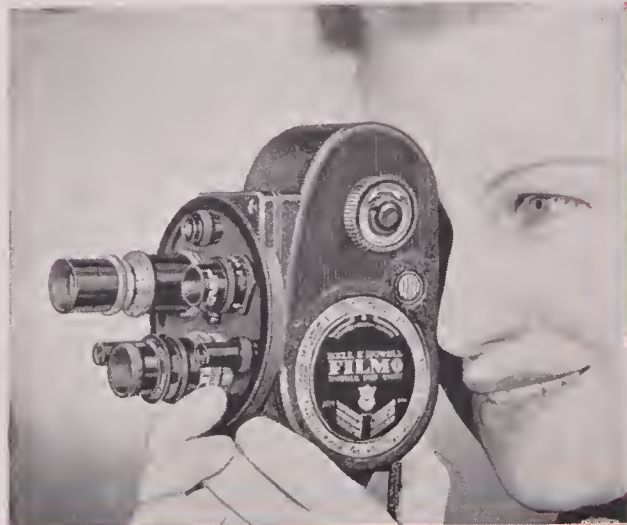
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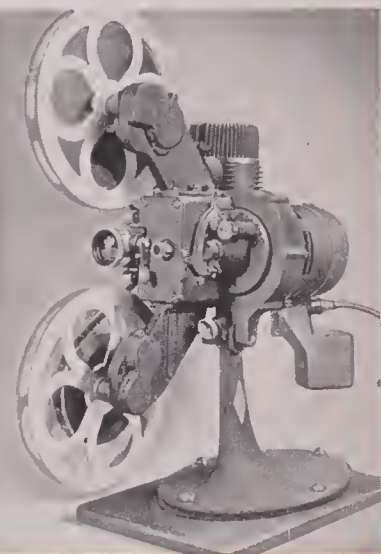
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